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(1.) *The General Relations of Medicine in Modern Times.* By HENRY W. ACLAND, M. D., F. R. S., LL. D., etc., Regius Professor of Medicine in the University of Oxford, President of the Association.

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2. *The Physiology and Clinical Uses of the Sphygmograph.* By F. A. MAHOMED, Student of Guy's Hospital. London Medical Times and Gazette, 1872, Jan. 20, Feb. 3, Feb. 24, March 2, March 23, April 13, May 18, etc., etc.

3. *On the Use of the Ophthalmoscope in Diseases of the Nervous System and of the Kidneys; also in certain other General Diseases.* By THOMAS CLIFFORD ALLBUTT, M. A., M. D., Cantab., etc. London and New York: Macmillan & Co. 1871. 8vo.

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WOODMAN. New Sydenham Society's Publications, Vol. XLIX. London. 1871. 8vo.

5. *De l'Électrization Localisée et de son Application à la Pathologie et à la Therapeutique par Courants induits et par Courants galvaniques interrompus et continus.* Par le DOCTEUR DUCHENNE (de Boulogne). Troisième édition entièrement refondue, etc., etc. Paris. 1872. 8vo.
6. *On the Pathology and Treatment of Cholera.* By GEORGE JOHNSON, F. R. C. P., Physician to King's Hospital. Medico-Chirurgical Transactions. Vol. L. Art. X. London. 1867.

THE long array of titles in medical literature we have thought proper to associate with this article need not excite in the reader any apprehension that he will be called upon to assist in the process of conventional criticism. But we have selected them for the reason that, each and all, they march upon the highest planes of medical thought, and are themselves the very standard-bearers of its advance. Upon their authority we shall rely for the ideas we hope to develop, and it is with their assistance that we propose to sketch in consecutive narration such accepted general principles and such special but essential technicalities as shall constitute in reality an essay upon the thesis of Modern Medicine.

Medical men are charged with a liability to fall into one or the other of two opposite errors. They are charged with either being too content to regard their profession exclusively as an art, and with rather exulting in the assumption of an attitude of pure empiricism, or, on the other hand, there is ascribed to them an ambition to associate medicine with the dazzling but often delusive propositions asserted from time to time with a confidence which rarely accompanies even the best demonstrated facts in science. The truth is, we cannot establish with exactness or logical precision many of the fundamental notions to which medicine, as a profession, owes its very existence. Often we have to depend upon personal conviction alone, reasoning to ourselves from facts which we cannot explain, and acting in emergencies solely upon our rapid estimates of the probable. Pure Science admits no uncertain elements, but we cannot wait for her elimination of them; and when a physician, upon a balance of probabilities alone, acts, as he must, with a promptness flush with his decision, he is only like the navigator who trusts to his instincts in the tempest as readily as to his observations in the calm.

The older physicians conducted their observations in the true spirit of science, and reasoned with a caution which grew out of their consciousness of the uncertainty of the ground to be explored, and of the intrinsic inadequacy of their methods. Within certain limits we can place far more reliance upon the results of our own observations; but with more extended and precise methods comes the possibility of being found wanting in their characteristics of patience and care; while the ingenious mechanical appliances upon which we depend may be as much the measure of weakness as the proof of strength; and though by their aid the immediate judgment is rendered less difficult, the art of judging as a process of reasoning may eventually come to languish from disuse.

Without any sympathy with purely empirical medicine, we are still less in accord with that disposition to remote theorization which assumes that the spirit of modern medicine requires us to subordinate its advance to the vast and exhaustive generalizations of the science of the day. We can fit to no place in practical medicine the new *dicta* of the speculative physicists which assert that "an action of which we are immediately cognizant is but the result of the operation of the solar heat upon and through independent and correlative existences; that all things in this system are capable only of interchange; that there can be no destruction of that which exists, and no creation of new energy"; "that the human mind itself, emotion, will, and all their phenomena were once latent in a fiery cloud"; "that all our poetry and science and art, Plato, Shakespeare, Newton, are potential in the fires of the sun."

Now, instead of demanding upon what rests this projection of human thought into the infinite unknown, some of our outposts concede the very key to our position by the surrender of all notion of a vital principle or a Final Cause. This theorem of the conservation of energy controlling the laws of affinity and bringing all vital phenomena within the domain of physical necessity enters into every conception of organic change; and as a corollary, if we cannot separate medicine from the indirect any more than from the direct influence of science, we must be governed by such remote physical speculations, and, abandoning all previous inductions, substitute for them a mere collection of undemonstrable postulates.

We pretend to have learned the methods by which the earth's crust became fitted to produce the chemical conditions which render the evolutions of organisms possible, but we cannot describe the commonest chemical changes going on every moment of our lives in our own bodies. We assume to fix the periods of the earliest geological transformations, but we cannot define the simplest of the vital processes. In the words of the chemist Bertholet, "We know nothing of any one of them thoroughly, since a perfect knowledge of any one involves the perfect knowledge of all the laws and all the forces which combine to produce it; in other words, a perfect knowledge of the universe."

The difficulties with which medicine has to deal are not due to the vastness of its included subjects, nor to any doubt as to their basis in science, but to the fact that it is itself a science which is complicated with an art and operating upon one of the obscurest of chemical processes. Nothing can be true in medicine that is not based upon unalterable law, and the law that underlies all therapeutic effort rests upon the maxim that living matter must act definitely in definite conditions. When failures are explained (says Mr. Mill, we believe), they become part of the law to which they were supposed to be an exception. Chances in disease are its variable causes, and there can be no assumption of erratic procedure, only to account for deviations for which no better reason can be given.

While the advance in medicine is in a great measure, but not so absolutely as some of our authors imagine, correlative with the general advance in science, it is by no means so certain that those departments with which medicine is the most closely connected are marching with the rapidity and precision of others with which we can claim no immediate relations. In the discussions of vital theories, which surely is where general science impinges most undeniably upon our pre-emptive domain, we find little else than opposed and controverted theories, with mere fancies more or less whimsical, and dogmas in every stage of assertion and rebuttal. Chemistry, on the contrary, till quite recently exclusively analytical, has just entered upon a new career of combinations; and as there are really no limits to the possibilities of synthesis, we can follow it no further than the threshold, and must henceforth gaze upon its progress from afar, content with what our pharmacist shall distil from it, and grateful for what the chemical physiologist shall give us (and take back again) from year to year. But apart from all lofty connections and in its own career, medicine, while stationary with all learning for many centuries, is now fairly abreast of its tributary sciences, while as a practical art it lays under contribution the highest developments of all other arts.

As the physician can never more hope to comprehend more than an insignificant portion of any one of the allied sciences, it is consolatory to feel that in limiting the conception of professional duty and requirements to the single department of clinical medicine, the pure medical scientist of the future will be a far superior intellectual resultant to the quasi-universal sciolist of the past. For, as Sir William Gull says, "if it were possible to conjoin in one human intelligence all that is now known of all other sciences, such knowledge would be compatible with entire ignorance of clinical medicine." And bringing the subject into these narrow limits which we intend to claim as the only proper sphere of the medicine of the day, as the phenomena of living tissues are not explained by their chemical composition, so the phenomena of disease are not explained by the knowledge of healthy tissues or by the action of healthy organs. There are problems to which we are not bound to give a scientific solution, but which involve an action within the resources of art. We find ourselves surrounded by ailments and suffering, and in the main we know how to relieve them. The outcome of our knowledge is not philosophical contemplation, but it *is* adaptation and action: we cannot wait for absolute methods, nor shun the contingency of failure. And then we apply our *art*, "leaving physiological questions to the physiologist, and chemical questions to the chemist."

Having thus reduced our conception of medicine to its clinical phases alone, in dissent from the more ambitious flights of

Professor Acland, and having shown, we trust, that while elucidated by, it is not comprehended in the kindred branches of learning, we propose, before commencing the special subjects included in our general purpose, to point out a few changes in the broader ways of medical thinking.

In uniform conditions of human life, individuals are mainly alike, and are equally susceptible to physical ailments of whatever origin. Their occupations are the same, their food at given seasons is the same. Among savage nations, therefore, as the type of an identity of condition, we are not surprised to find whole tribes or communities carried off by a general epidemic, or by a single disease, like leprosy, plague, or small-pox. From the diversity of conditions in civilized life, on the contrary, there arises an immense variety of ailments to be studied. The diagnosis of these ailments, or the art of distinguishing a given one from all others, rests upon the basis of knowing the sum of the possible in morbid processes. But what is exhaustive in the pathology of to-day may be very far behindhand to-morrow. For while the whole subject of morbid anatomy is said to have been studied out to its ultimate, to be in fact an exhausted mine, such a conception of it must only turn, we fancy, upon whether its phenomena are now to be ranged as causes or as resultants. And next to the possible in disease come the second elements in the probable, as learned from the largest and most varied experience.

Our danger will always lie in deviating from our own narrow but trustworthy path, and wandering away into the tempting fields of physical or chemical analogy. Yielding to external importunity, we are induced at one time to look upon the human body as a sort of undeveloped galvanic battery, and at another we fancy it to be simply an animated oxidizer, and that all our ailments arise from defects in its machinery or obstructions in its chemical processes. Not very long ago the microscope seemed likely to disintegrate all large conception of clinical phenomena, and to tie us down to what Nelaton called the beetle-eyed habit of observation. Nor should we leave out of the reckoning a method of studying disease by columns and averages, calling itself in its short-lived day the "Numerical System," and which never, as it pretended to do, at any time replaced opinions by facts, but which really retarded the scientific induction and philosophical study which are the characteristics and the pride of the present day. Its labors were wasted in mere counting-house puerilities with disjointed and irrelevant details, and for years some of the foremost men in France and America, but never, we believe, in Germany or England, found no better occupation for their faculties than the inconsequent tabulations and the fatuous arithmetic of this happily effete substitute for medical observation.

Modern medicine inclines to regard diseases no longer as distinct entities, but rather as perverted life-processes with their proper access, culmination, and decline, requiring only time and rest for their completion; and it is not by setting up distinct conceptions in opposition to the standards of health that these processes are best to be studied. Perverted functions must be attributed to failure of action, not to excess of it, and we are to watch the very first deviations and shortcomings from the condition of health itself. Organic strength is now known to exist in full nutrition and in healthy function only, never in their perversions. But we are still hampered by the old nomenclature, and with the clearest conceptions we cannot always avoid confusion and apparent contradictions. The terms "sthenic" and "asthenic" are relics of the old "phlogiston" which itself still survives in the expression "anti-phlogistic." *Strength* and *weakness* are descriptions of no value in semeiology; they are deduced from subjective and only superficial phenomena. The quickened pulse, the acute delirium, the burning fever, all once supposed to indicate a preternatural strength, are but the tokens of a deficient balance-power, and heat itself has come to be the surest measure of organic waste.

The terms "zymosis" and "zymotic disease" have for a long time held a position in medicine for which no valid reason can be given. There is really no clinical condition which we can intelligibly or with any propriety define as *fermentation.* The specific tokens of a fever are to be found in its attendant tissue-changes, not in the multiplication of hypothetical organisms. "Zymosis" in classification is the superfluous survivor of the old scholasticism which generally explained the obscure by something that was still more obscure.

In every part of the body are developed proclivities to some special morbid action, with its appropriate mode of repair, whose course of life is as natural as that of the tissues from which it springs. We may take as the type the plastic lymph which helps on the resolution of the inflammations of the lungs, of the heart, and of their investing membranes. Knowing these intrinsic tendencies, we trace back the morbid action to its sources, and are prepared for its coming results. The brain also, without apparent cause, is liable in the adult to the formation of tumors, and in the young to insidious softening; from certain external phenomena we are led to suspect these conditions, finding a meaning in elements once entirely overlooked; and mere symptoms have come to be of little value in any diseases of the brain. Studying them only from books, we read of the most diverse affections presenting identical symptoms, and the most extensive lesions developing no symptoms at all; while in their pathological study the whole catalogue of symptoms may have one after the other appeared, and not the trace of disease have been left.

Certain textures are prone to morbid action, while others are almost sure to be free from it. Portions of a single continuous tissue have the same liability or exemption, and why, we cannot say; but knowing the fact, we may distinguish with certainty the structures of the parts affected. We recognize analogies between the infantile and the senile affections, as different and as like as "the tints of the rising and of the setting sun." Special forms of convulsions, of abdominal pains, of skin diseases, of uric-acid deposits, are common to both periods, and reveal alike the failing power of degenerating tissues in age, and inadequacy of power in the growing tissues of infancy.

A number of very common acute disorders are now believed to be secondary to latent chronic lesions, or dependent upon distinct degenerations, the potential lesion of causation being unnoticed in the storm of symptoms it has excited. Some of the acute inflammations within the abdomen and the encephalon are only the ultimates of a morbid process of many years' duration, and a disease, long regarded as local, turns out to be not the sole or immediate cause of death, or even the most important change. And we now comprehend, as never before, the old

Hippocratic axiom, "Diseases do not fall upon men instantaneously, but being collected by slow degrees explode with accumulated force." These unquestioned facts of the changed relations of acute and chronic disease, like all reversals of long established opinions, are in danger of leading to the opposite extreme, and Sir William Gull especially seems to entertain the conviction that acute disease is, upon the whole, more likely to be the result and not the cause of accompanying chronic lesion. Where extreme views of this sort are once fixed, the pathology can always be made to conform to the theory; and as it is very difficult in *post-mortem* inspections to determine with exactness the cause of death, we should be wary lest the scalpel and the microscope give us back only our own *a priori* conceptions. The general belief that chronic conditions are mainly the result of irremediable acute ones is too firmly fixed to be reversed but with the greatest caution.*

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* After these passages were prepared for the press, we received from England a copy of the "Medical Press," published in Dublin, of the issue of January 15. Among its contents are the reports of the medical attendants of the late Emperor Napoleon III. upon the causes of his death. It will be remembered, perhaps, that, from its suddenness, this was at first attributed to *embolus* and afterwards to *chloroform*. We shall transcribe the lesions actually found after death. They furnish a striking comment upon the determination with which even a philosophical mind will carry out a preconceived theory, and, as we intimated in the text, make the pathological appearances conform to it. They furnish, in fact, a swift and complete confirmation of the objections we ventured to raise in our criticism of Sir William Gull's opinion as to the relations between acute and chronic disease. That very eminent man could not have desired a better opportunity to illustrate his theory, and it was inevitable that he should avail himself of it. We feel bound, therefore, to reproduce the facts in the case at length; as we had already asserted that any fixed general notion of this kind would be likely to lead to error under circumstances where the fact of priority of condition must be a matter of conjecture mainly.

The autopsy of the Emperor was made by Dr. J. Burdon-Sanderson, in the presence of those whose names are appended to his report. Sir William Gull does not appear to have been present, but he has placed upon record his dissent from the opinions of those who were, upon a single point only, and that point involves the very matter upon which we had taken issue with his theory.

It would seem that an impression prevailed in England that the true nature of the Emperor's complaint had never been detected by his French advisers; and the facts which were developed in the communications this belief elicited prove the long existence of the more potential cause of death, and disprove entirely the assumption upon which Sir William founds his non-concurrence; while they also show, which is not so much to our purpose, however, that the French faculty were perfectly acquainted with the nature of the case.

There are drawbacks in the medicine of the period. It is inclined to neglect the broader study of general diseases for the closer methods in diagnosis alone, and to assure it by ingenious aids. Its exclusive study of small portions of the body limits the mind to a localized pathology. It is even to the disadvantage of skilled auscultation that it diverts attention from the more general cause which has induced the local affection; and, finally, it is only the local or special diseases that are now considered fit subjects for monographs.

On the whole, the more careful study of morbid processes has resulted in the isolation, not only of the individual, but of the separate life of his special organs and tissues; of which the natural and fortunate consequence is a method of treatment ap-

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"The most important result of the examination was, that the kidneys were found to be involved in the inflammatory effects produced by the irritation of the vesical calculus (which must have been in the bladder several years) to a degree which was not suspected; and, if it had been supposed, could not have been ascertained. Death took place by failure of the circulation, and was attributed to the general constitutional state of the patient. The disease of the kidneys was of such a nature and so far advanced, that it would in any case have shortly determined a fatal result.

"Signed by all present:— "J. BURDON-SANDERSON, M. D.
DR. CONNEAU.
" LE BARON CORVISART.
HENRY THOMPSON.
J. T. CLOVER.
JOHN FOSTER.

"CAMDEN PLACE, CHISLEHURST, January 10, 1873, 6.30 P. M."

Sir William Gull records a separate opinion on one point only, namely, the origin of the calculus, in the following terms:—

"I desire to express the opinion that the phosphate of lime calculus which formed the nucleus of the mass was the *result* of the prior cystitis, not the cause of it. This nucleus was of uncertain duration, and may even have been more recent than supposed in the appended report." "It seems, to my judgment, more in accordance with clinical experience to regard the cystitis [inflammation of the bladder] as the *prior* lesion, and that this by extension, as is common in such cases, affected subsequently the ureters and pelvis of the kidneys. No doubt in the later stages of the malady the calculus by its formation and increase was an augmenting cause of the lesions." (The italics are ours.)

Now, as we learn from the *Union Médicale*, "On July 1, 1870, the Emperor Napoleon feeling very ill, a consultation took place between Doctors Nelaton, Ricord, Fauvel, Corvisart, and See. Their diagnosis was that of stone, and an immediate operation was recommended." But from *political considerations* "the disease was allowed to go on augmenting for two years and a half." As the "Press" remarks, "the report is in strict accordance with clinical experience, and, what is more to the point, with the *clinical history of the case itself.*"

plied to the individual, and not to the name we may have to give to his complaint. His own life constitutes the individual, and all the alterations of that life, therefore, are individual and not general. One person dies in an epidemic, and another recovers, from causes peculiar to these individuals. Only to the charlatan is disease a congeries of symptoms, for every one of which its special drug has been catalogued.

Certain abnormal conditions have now ceased to be regarded as diseases. Mere "ailing" is as natural a process in advancing age as health. "The Diseases of Advanced Life," so ably treated by Dr. Machlachlan, who studied them among the Greenwich pensioners in his charge, might more properly, we fancy, be entitled "The Natural History of Old Age." The natural changes of age only simulate the diseases of a younger period, and even well-marked special diseases once fastened irremediably upon the system lose their distinctive characteristics and become merged in general decay; and this view has been recently corroborated most strikingly by the facts developed in relation to a recent discovery at Vienna.

The now well-known tendency of renal disease and its consequent ill-nutrition to induce chronic or sub-acute inflammations in the encephalon, we can allude to more conveniently in another section of this article.

A great variety of related phenomena from a single cause, varied by individual tendencies, were formerly classed as half a dozen different diseases. The term epilepsy once denoted a special morbid state with convulsions and unconsciousness. We see in it now a condition of disturbed molecular nerve force, such as is likely to occur in any other aggregate of molecules, in which may occur not only the common phenomena of epilepsy, but coma without convulsions, paralysis following convulsions, sudden and transient mania, and peculiar forms of neuralgia; we must therefore cease to give reality to such an affection apart from its phenomena.

Among the new connections in which old symptoms appear, there are two which deserve special mention as trophies of more minute exactness in study, namely, embolus and locomotor ataxia. To Virchow of Berlin we are indebted for a pathological discovery which has cleared up many obscurities.

Minute doses of fibrine, or coagula of blood, called *thrombi*, become detached from the chambers or valves of the heart, travelling either in small particles or in masses to the smaller arteries, or they may course along the veins back to the heart. To the coagulation of blood in the living vessels, starting from the fact that arrested blood coagulates at the temperature of the body, 98° F., Virchow has developed his theory of the "inflammations of veins" as it was before regarded, and explains many results formerly attributed to "palsy of the heart," "retrocession of gout," "metastasis," "sudden death," etc. To the formation of clot Virchow gave the name of *thrombosis.* The projection onwards of the clot or thrombus along the vascular system is called embolism, and the whole series of actions is now known specifically as embolus. From this discovery, as it may almost be called, many things before involved in mystery are brought to light and arrange themselves in definite order, enabling us to anticipate the occurrence of other results, and to prevent them.

The *ataxie locomotrice*, first described by Dr. Duchenne of Boulogne, is the result of a degeneration of the posterior columns of the cord which, after all the discussion, is the main and distinctive seat. Dr. Baillie, however, had proximated the matter in his description of a sort of "paraplegia, from excessive morbid secretion of the cerebro-spinal fluid, which in the erect posture gravitates to the lower part of the sheath" and pressing upon the cord embarrasses the co-ordination of movements. The isolation of the motor columns in this affection harmonizes with an old physiological notion, that these parts had their own vitality and a separate function, being mere commissures or connecting bands: textures limited to such a function may have a lower vitality than others whose functions are more essential, and at the same time a greater tendency to disease than those of higher vitality.

Having stated much that has been learned of late, let us confess to a little ignorance and to a few wants. We do *not* know why it is that in the two poisons, cholera and diphtheria, both developed on mucous surfaces from the blood, all the salines and water are poured out in the one, and a fatal effusion of fibrine takes place in the other. The cattle plague and the horse disease are as far removed as possible beyond the reach of cognition or prevention. Do what we will, epidemics must always be anticipated in some form or other, and hygiene can never replace therapeutics. Finally, we are sadly in want of simple and ready means to recognize chemically the urinary morbid products as easily as we now detect sugar and albumen. They are largely connected with changes in health and disease, and chemistry still owes such methods to medicine.

The Sphygmograph. — Our purpose requires no comment upon the pulse. Well studied by the ancients, during the Middle Ages any reliance upon it was generally regarded as a superstition in the category of astrology; "it was doubted if its varieties, as described by Galen, could really be observed or understood." The pulse, however, will always be recognized as the unerring index of a function whose continuance is essential to life. Not only must the heart not cease its action for a single moment, but we are suspicious of the slightest token that it wearies or faints at its work, for the issues of its halting are the issues of life and death. Apart from its immediate connection with the special disorders of this great centre, the pulse has not lost its position as chief among the methods of finding out the working of every portion of our physical machinery. The sense of touch, however, is not only deceptive, but it cannot be taught; no teacher can ever impart to his pupil the experience or knowledge that his own well-educated finger derives from the pulse. The sense of sight, therefore, is not only a much more reliable guide in itself, but it is a far better medium for description and instruction.

Galileo was the first to conceive the idea of recording accurately and visibly the characters of the pulse, and he constructed for the purpose what he called a *pulsilogia*, which made no impression in its day and left no trace but its name. Vierordt invented a sphygmograph, but it was full of fallacies and of no clinical value. The name of Marey is now exclusively associated with the modern instrument which is made to register the pulse-shock and the wave of the blood column along the arteries.

The sphygmograph is essentially an arrangement of levers by which the wave as transmitted is increased in apparent size, or rather exaggerated in action, by movements similar to those of a small upon a larger wheel. An ivory pad rests upon the artery, usually that at the wrist, the rush of blood along the vessel lifting the pad perceptibly even to the eye. But however slight the movement, it is sufficiently exaggerated by the levers to procure a distinct tracing of its normal outline and of its every variation. The impulse received by the ivory is transmitted by a long slip of light and flexible wood, at the opposite or free extremity of which is affixed a fine steel point, which we will call the *stylus*. By a secondary arrangement, a slide, placed at a right angle with the lever and in contact with the stylus, is made to move by mechanical appliances from right to left across its point, so as to give when in motion, to the liftings of the pad and to the movements of the lever and of the stylus, the effect of tracings in free running hand from left to right. The rate at which the slide moves is made to correspond with the time required by each pulse-wave to effect distinctly the whole of its individual tracing, that is, the rate of about four inches in ten seconds. At this rate of speed, each impulse occupies about four tenths of an inch in space upon the slide, and we here premise that the spaces and lengths to be spoken of assume a healthy pulse, without pressure and with the motion of the slide graduated to this rate. We may also state that the instrument as it was left by Marey, like most mechanical appliances requiring practice and skill in manipulation as well as judgment in induction, has usually sunk out of sight as fast as introduced. It had faults and imperfections which speedily destroyed its reputation for reliability, and at last it came to be scarcely mentioned even in medical text-books. In fact, it had dropped into what seemed to be its natural place as simply a physiological curiosity. The monographs upon its uses, especially that by Dr. Burdon-Sanderson, are more in the nature of scientific treatises than adequate guides to its clinical use.

These considerations were probably what induced Mr. Mahomed, a student of Guy's Hospital, to commence an extended and exclusive study of the subject, and by his improvements in the instrument, accommodating its movements to the feeblest

pulse, and with the advantages of a nearly perfect mechanism, he has been enabled to present, not only a new method, but a new literature of the sphygmograph.

Although a pen actually dipped in ink may be made to do sphygmographic writing upon white paper, the best register is a tracing by the steel point upon smoked paper made portable and permanent by varnish. And if the reader will now attempt to form a mental picture as he goes along with us, we will endeavor to clear up the mystery of the sphygmograph as intelligibly as it can be done without diagrams, at least to give some conception of the simple process by which the heart is made to write out a description of its own ailments at the end of a telegraphic wire a thousand miles away.

The first impulse imparted to the pad by the artery sends the stylus suddenly upwards on the smoked paper, scratching a straight line of about half an inch or less in vertical height. This first up-stroke is called the percussion stroke, and proceeds from the shock received by the blood-column as a solid body, on the bursting open of the aortic valves as the blood leaves the heart for the general circulation,—a shock communicated almost instantaneously to the whole arterial system. In the normal condition this stroke is distinct from the true pulse-wave ; if confused or identical with it, it becomes a sign of disease. It is the index of a healthy suddenness and force of the heart's contraction, and measures its muscular strength or weakness in acute disease, but it is not a guide as to the relative amount of blood forced into the aorta for distribution. After marking the percussion stroke, the stylus next drops about a tenth of an inch, at a slight distance away from the vertical line and making a very acute angle with it, and its descent is cut short at this point, and sometimes pushed slightly up again, by the distension of the artery by the true tidal wave. Its next fall forms a curve with the concavity downwards. Up to this point the whole tracing is called the percussion wave, from the starting-point of the percussion stroke to the end of the first curve; and the space between the vertical line and the next regular ascent of the stylus measures the time elapsing between the opening of the aortic valves and the arrival at the wrist (of the tidal impulse). Next follows the second up-stroke and fall of about half the height of the vertical line, whose force and comparative height measure the amount of blood forced into the arteries; and the degree of pressure, usually about twenty pounds, required to extinguish it, shows the actual propulsive force of the heart's contraction, a much slighter pressure being sufficient to efface the percussion wave. We are now about half-way over the inter-vertical space, as we may call it. The next motion traces a curve with its concavity upward, and the notch from which it starts is called the aortic notch, and the impulse ends with the closure of the aortic valves. The second elevation is due to arterial expansion, and the whole stroke ends with a gradual fall of the stylus to the base line corresponding with the collapse of the artery. This base line, drawn through the bottoms of all the vertical lines, Marey's *ligne d'ensemble*, is curved, with its convexity upward on forced expiration, and conversely, on forced inspiration, it forms a downward curve, and might be called the respiratory line. The whole pulse, then, is divided into two parts, corresponding with the contraction and the dilatation of the chambers of the heart; and we are now prepared to see what the deviations from these normal characteristics indicate, as derived from a few simple inductions.

First, the graduated amount of pressure required to efface the tidal wave shows a hard or a soft pulse. Secondly, the verticality of the percussion stroke and its proportion to the tidal wave show a slow and feeble or a sharp and strong heart action. Thirdly, the height of the tidal stroke shows the amount of blood expelled from the ventricles. Fourthly, the degree of convexity of the succeeding curve indicates the amount of obstruction to the arterial collapse from any cause. Fifthly, the dicrotic ascent or rebound indicates disturbed relations between the heart's contraction and the arterial tension. Sixthly, the spaces indicate the relative duration between contraction and dilatation; and seventhly, the convexities of the *lignes d'ensemble* show the effect of the act of respiration upon the pulse.

The pulse of every individual is as characteristic of him as his intonations or carriage, and we do not doubt but that the sphygmograph might sometimes settle questions of personal identity; but in disease the pulse loses this individuality, and varies with the general circulation. The sphygmograph has differentiated between diseased conditions of the brain, which even the ophthalmoscope had left in doubt. But it should not be forgotten that its action is circumscribed and its value limited. It is the index of the vital and dynamical condition of the circulation alone. We have only to add that tracings can be taken from the apex-beat of the heart, when they are called cardiographs; they are wanting in the finer details we have above specified.

The Ophthalmoscope. — What we have to say of the ophthalmoscope will be limited to its uses in general diseases; with its employment by the specialists in the examination of local affections we have nothing to do. Nor is it necessary to describe the well-known little mirror which is a part of the programme in the visit to the "ophthalmic surgeon." Invented by Helmholtz, but brought into its present use and nearly perfected by Liebreich, it certainly has worked a revolution in ophthalmic science. It may not be superfluous, however, to remark, that the instrument in question is primarily a concave reflecting mirror with a perforation in its centre, which catches the rays from a light placed by the side of the patient's head, and throws them back to the bottom or *fundus* of the eye, which is itself a part of the magnifying power. Any transparent reflecting body is an ophthalmoscope, and with an ordinary lamp sufficient light is returned from the concavity of an ordinary watch-glass to exhibit all the details at the back of the eye; and it is said that it possesses the advantages of not requiring dilatation of the pupil by atropia. We do not believe, however, in simplifying or extemporizing processes in so important a matter as diagnosis of optic changes. The most perfect instruments and skilled manipulation, with every accessory to facilitate the examination, should be made use of, nor should our own judgment be trusted till after long practice and many comparisons.

The specialists Graefe and Liebreich were the first to observe the effect of constitutional lesions in the structure of the eye; and although great progress has been made in their study by both French and English physicians, the first English classic on the subject is just out from the press, — the beautiful volume by Dr. Allbutt. Ophthalmoscopy has been for years gaining ground in medicine entirely distinct from its specialistic utility. But a short time ago an eminent London physician said to the author, "It is nonsense to pretend to localize diseases within the encephalon: ingenious guesses you may make, but such guesses seldom prove to be worth much in the dead-house."

Clinical observation in this direction has been stimulated by the great advance in our knowledge of the morbid and the minute anatomy of the central nervous system. The brain is so complex and inaccessible an organ that it has kept out of the reach of the rigorous analysis which has of late changed the whole aspect of medicine. The inspection of its actual morbid processes will go far to disperse those transcendental habits of thought which, driven from every other position, still have their foothold in the brain, and to establish the fact that as its functions are only the movements and relations of its tissues, so the diseases of the encephalon can only be the abnormal action of its component parts.

Disturbed vision or absolute loss of it has always been known as an attendant upon diseases of the brain. Soon after Bright's discovery of the connection between albuminuria and renal disease, amaurosis was noticed as an occasional symptom of the new disease. The ophthalmoscope discloses not only the mode by which sight is thus affected, but that very process itself makes important revelations as to the remote cause residing in the kidneys. It not only tells what we could not otherwise know, but it is sometimes the only solution of a difficult problem, and in distinguishing and foretelling results its value is immediate and irreplaceable.

But it must not be forgotten that the use of the ophthalmoscope in general medicine is limited to that state of the intracranial circulation shown in the vascular system of the optic nerve and retina; nor is it infallible here. As we have intimated, the interpretation of phenomena by it is not easy, and the absence of change in the retina may coexist with abnormal cerebral circulation.

The indication of cerebral disease through the optic nerve is due to its great vascularity, its large share of connective tissue, and its contiguity with the parts at the base of the brain. The nerve and the retina are independent of each other in their vascular supply; the central artery and vein of the retina lie among the fibres of the nerve, but distribute no branches to it. But in the optic disk, which is the great centre of observation, a network of vessels connects together the nerve and retinal arteries, etc. The disk therefore is closely connected with the cerebral vascular system, and is the best index of its condition and disturbances. An inflamed or congested optic nerve may be watched from hour to hour, and false conclusions be avoided, even if the cause cannot always be known and located, and its nature, often more important than its seat, be ascertained. Before the connection between changes at the back of the eye and the effect of intra-cranial blood pressure upon vision were known, the utmost confusion prevailed as to the cause of the disturbance. At one time a tumor would be found pressing upon the optic nerve or ganglia; at another identical phenomena would occur without tumor, and the sympathetic system, the original sin of baffled nerve science, would be suggested as the offender. The most careful clinical observers are still in doubt as to the actual value of optic changes in the diagnosis of tumor, though Dr. Allbutt avers that nothing is more certain than that "intra-cranial tumors commonly give rise to changes in the optic disk." Without entering into any discussion of disputed points, we propose, in accordance with our plan, to state a few illustrations of the clinical uses of the ophthalmoscope.

The "choked disk," *ischœmia*, is due chiefly to such causes as distention of the ophthalmic veins, inflammation of the brain membranes, hydrocephalus (the affections of youth), and tumors; conversely, acute and chronic softening, hemorrhage, hardening and arterial degeneration (the affections of age), do *not* cause it. The appearance called neuro-retinitis is an extension of inflammation from the brain, especially if its seat be near the optic tracts. What seems remarkable is, that no inferences can be made as to the state of the optic disk from degrees of vision. Choked disk, nerve inflammation, and advanced atrophy may all exist without any affection of sight, without pain, and without sensitiveness to light.

The study of some particular affection will give a better insight into the value of the instrument in general diseases than any other course, and we will take for this purpose epilepsy. Between the paroxysms of epilepsy, the optic disk is observed to be of a deeper red, the vessels are larger than normal; during the convulsions the disk is of a pinkish color, the arteries are small, the veins large; after the fit the disk is pale, the arteries small, and the veins are unchanged. As consciousness returns, the disk becomes of a deeper red, the arteries are larger, and the usual retinal appearances return. The stage of stupor indicates a general condition of anæmia. These appearances confirm the present theory that epilepsy is due to anæmia, and not to congestion of the cerebral vessels. If maniacal excitement follows the fit, there is even more congestion. The degree of congestion is in direct ratio to the number of fits and their severity. Now when the fits are reduced in number by bromide, the congestion is lessened; but if the fits recur with their former frequency, the congestion returns. It is inferred therefore that the reduction of congestion is not due to the immediate and direct action of the bromide on the blood-vessels, but is due to the absolute reduction in the number of the fits, possibly through some other action of the bromide, which loses its power to control the morbid tendency after the constant vascular disturbance caused by the fits has led to marked passive congestion, but frequently controls it when congestion is not so far advanced. We thus arrive at a modification of the general belief as to the action of bromide absolutely, and at some knowledge whether it is likely to be of benefit in a given case.

In renal disease the most conspicuous change is retinitis, with subsequent degenerations of and about the disk, so characteristic as to be at once recognized as due to albuminuria; not confined to any one form of renal disease, but most common with contracted granular kidney. It is believed that these initiative changes in the retina are set up originally by uræmic poisoning. The mirror reveals two classes of eye-affection, those due to uræmia, which are sudden and temporary, and more gradual impairments arising from visual degeneration.

Spinal disease, if chronic or if slow in access, is detected by optic changes. If it arise from injury, the higher its seat the sooner the after-changes appear. These changes are, first, simple primary atrophy, which is *never* the result of injury, but is common in chronic degeneration of the cord and in *locomotor ataxia.* Secondly, indistinguishable retinal arteries with swollen, dark, and tortuous veins; the disk red, its borders lost; these are seen only in injury, never in degeneration or ataxia.

As new instruments of precision open new avenues to knowledge, so an improved method stimulates research, and the mind itself is invigorated by the new opportunities, and from habits of accurate and industrious observation comes that intimate knowledge which is founded upon facts, however they may oppose tradition.

The Thermometer in Disease.—In 1754, Antonius de Haën, the first known teacher of clinical medicine in the Hospital of Vienna, taught his pupils to ascertain the temperature of the body in fevers according to the measurements of the thermometer, and not through the impressions received by the hand. It had not escaped notice, even at that period, that in the cold stage of ague, with chattering teeth and shivering skin, pallid and cold from contraction of its blood-vessels, the temperature of the body beneath was rapidly rising, and even with the rude instruments of the period the increase of heat could be accurately measured. The hand of the physician and the feelings of the patient are alike fallacious and unsatisfactory.

The instrument of precision now exclusively used in observations of animal temperature is a sensitive mercurial thermometer, graded between 85° and 115° Fahrenheit, self-registering, and measuring with fifths or even tenths of a degree. As a rule, the temperature is taken at the armpit, the skin being folded over so as entirely to cover the bulb, at different periods both of the day and night, and the daily changes are accurately noted on the proper thermometer charts. We must start from the normal standard of fluctuations within the limits of health, and with the correlations of animal heat with the pulse and respiration.

The normal heat of sheltered portions of the human body is 98°; and a rising above 99°.5, and a depression below 97°.3, if persistent, are certain signs that disease of some definite type is present, or, as we should express it, some special deviation from health. But there have long been on record observations on normal temperature under variable circumstances within the limits of health: those communicated by Sir John Davy to the Royal Society disclose the following facts: —

In temperate climates the *maximum* temperature is in the early morning; after waking it fluctuates till nightfall, and is lowest about midnight, but the average difference is less than one degree (0°.82). In tropical regions the *minimum* is in the early morning; after waking it fluctuates, and is highest during the day. Davy also observed that "an undue degree of elevation was some criterion of the intensity of diseased action."

Animal heat is affected by a great variety of collateral circumstances, but the great distinction between the variations of health and those of disease is, that the first are temporary and within narrow limits, amounting to mere fractions of a degree; those of disease are of much greater extent, and persist during the continuance of such disease. Besides changes due to physical exertion, atmospheric changes, etc., it is ascertained that sustained mental exertion depresses heat half a degree; that after a full meal or the use of alcohol, heat is at first reduced, as digestion advances the temperature rises; that the average temperature in the tropics is one degree higher than in temperate zones; that the temperature is more sensitive and more readily and rapidly affected than either the pulse or the respiration, especially in disease. The degree of abnormal increase of heat is usually in proportion to an increased frequency of the pulse (about one degree to ten pulsations), and is in direct ratio to the severity of other general signs of disease; and where disproportion or incongruity exists between the heat and the pulse, or other febrile phenomena, as sometimes happens, the accurate measurement of the temperature is the most to be relied upon. The maintenance of the temperature within its known normal limits is a complete assurance that any disturbance shown by other clinical indications must be local and unimportant; and in military practice it discloses whether disease is feigned or real.

The conditions in which the thermometer serves a purpose which no other means can attain, are fever and tissue-waste. The essential element in fever is preternatural heat. Our knowledge of the natural history of febrile diseases has reached great exactitude and certainty during the past few years, but heat, after all, is the important feature. Whatever other theories have prevailed during twenty centuries, heat bears the same relation to fever as in the time of Galen. It is never absent; without it fever cannot exist. Rigors and chills are mere external phenomena; the sensations of heat and cold are subjective impressions due to the special condition of the peripheral nerves, not to any absolute condition of the temperature; and conversely, while the skin may be ice-cold to a bystander, the patient may feel that he is burning up within.

Some of the most exact and useful observations were made long ago in our own country by Dr. Joseph Jones, late Surgeon-General of the Confederate forces; but beyond everything in the way of recorded observations are those of Wunderlich, the Leipzig professor, whose book, translated by the New Sydenham Society, contains the record of half a million of exact thermometric observations, following the continuous process of nearly every human form of disease, and comparing the results from more than five thousand patients. Among them are instances where disease was demonstrated by the thermometer before it was possible to detect it through any other means, and sometimes a definite diagnosis was based upon a single observation. Sir John Davy gives a singular instance of rise in temperature where it was impossible to recognize disease by any of the ordinary methods. A lunatic soldier had for many weeks a temperature of 104°. The insane do not suffer from cold and heat like others, and certain organic lesions are apt to occur in them without the usual symptoms. This man made no complaint; his appetite and digestion were good. He died at the end of a month of acute tuberculosis, without any other symptom from first to last than this great and persistent elevation of temperature. There were ulcers in the larynx which had not affected his voice; there were large cavities in the lungs which had not caused cough; there was ulceration in the intestines without diarrhœa; and various other lesions, all masked and latent.

There is no form of illness characterized by fever which the thermometer cannot accurately distinguish, and recognize the type of; and if it be of an anomalous type, its departure from known types may be defined and described. But its most important use is to mark the daily changes in the condition of the individual affected: the development and progress of his febrile state, its abatement, subsidence, and defervescence, and the approach of local lesions. The term "defervescence" indicates the period during which the temperature of the fevered body is declining from the intense degree of heat which marks the state of accession towards the normal standard; if sudden, the defervescence is called *crisis;* if gradual, *lysis.*

Some of the best established clinical inductions in medical thermometry are as follows: The highest temperatures just before death have been observed in scarlet fever and in lockjaw. When the temperature goes above 99°.5 we know that the patient is ill from some definite cause; if it rises to from 101° to 105°, febrile phenomena are present with great severity; if it goes above 105°, the patient is in imminent danger; in a range from 106° to 109°, a fatal result is all but certain and is immediately at hand. In any disease, a temperature of 104° or 105° shows that its progress is not checked, and that complications are still possible. The thermometer, therefore, is the best and earliest warning of an additional development of disease, or that some visceral complication has occurred; and if in any accurately distinguished case of disease the temperature departs from its normal and typical range for that disease, we are to anticipate trouble. As convalescence only commences when the disease process ends, we know that it cannot occur till the normal temperature returns and maintains itself through all periods of the day and night, and during convalescence any considerable fall of the thermometer foreshadows collapse.

The morbid development of heat is sometimes associated with more, sometimes with less, abundant bodily excreta than in health. The temperature and the amount of the excretions bear certain as yet undetermined relations to each other. The loss of weight in a patient is due to an increased and rapid elimination of material with increased tissue changes, and is associated with increase of temperature,—more certainly as regards urea than with the other excretions; whence it is concluded that heat is attended with increased elimination of urea, and therefore with greater tissue change. While the product of metamorphosis, as determined by the excreta, may be diminished in fever, there may still be increased metamorphosis with less elimination. Finally the pulse, the respiration, and the temperature, each and all, represent forces at work within the living body which can be measured with great exactness, and such measurements show how closely the expenditure of forces is related to the excreta which represent the waste of tissue in health and in disease; show, also, the decline in that nervous control that regulates the functions in health: that is, in the force that limits the working of all other forces.

Localized electricity, or electrization, as it is commonly called, is now conceded to be a most powerful agent in the treatment of disease; but, to borrow the language of Dr. Russell Reynolds, " it is useful, useless, or mischievous, according to the manner in which it is applied"; and although the greater part of what we have to say about it will be as a mode of treatment, it is introduced here by virtue of the rank it has just begun to take as a most profound and scientific method of diagnosis.

The term "electrization" is generic, and should never be otherwise employed. It is common in medicine to restrict electric effects to the three varieties, of friction, of contact, and of induction. Frictional electricity, which Faraday himself called the Franklinic, is also known as " static "; while the two other forms are confounded under the common name of " dynamic." A primitive form of the static was the now obsolete electric bath, or the immersion of the feet in buckets filled with electric eels; the only forms of its present application are through sparks, or by means of shocks from the Leyden jar, or by insulation upon the glass stool, when the patient is charged by which the wave as transmitted is increased in apparent size, or rather exaggerated in action, by movements similar to those of a small upon a larger wheel. An ivory pad rests upon the artery, usually that at the wrist, the rush of blood along the vessel lifting the pad perceptibly even to the eye. But however slight the movement, it is sufficiently exaggerated by the levers to procure a distinct tracing of its normal outline and of its every variation. The impulse received by the ivory is transmitted by a long slip of light and flexible wood, at the opposite or free extremity of which is affixed a fine steel point, which we will call the *stylus.* By a secondary arrangement, a slide, placed at a right angle with the lever and in contact with the stylus, is made to move by mechanical appliances from right to left across its point, so as to give when in motion, to the liftings of the pad and to the movements of the lever and of the stylus, the effect of tracings in free running hand from left to right. The rate at which the slide moves is made to correspond with the time required by each pulse-wave to effect distinctly the whole of its individual tracing, that is, the rate of about four inches in ten seconds. At this rate of speed, each impulse occupies about four tenths of an inch in space upon the slide, and we here premise that the spaces and lengths to be spoken of assume a healthy pulse, without pressure and with the motion of the slide graduated to this rate. We may also state that the instrument as it was left by Marey, like most mechanical appliances requiring practice and skill in manipulation as well as judgment in induction, has usually sunk out of sight as fast as introduced. It had faults and imperfections which speedily destroyed its reputation for reliability, and at last it came to be scarcely mentioned even in medical textbooks. In fact, it had dropped into what seemed to be its natural place as simply a physiological curiosity. The monographs upon its uses, especially that by Dr. Burdon-Sanderson, are more in the nature of scientific treatises than adequate guides to its clinical use.

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second up-stroke and fall of about half the height of the vertical line, whose force and comparative height measure the amount of blood forced into the arteries; and the degree of pressure, usually about twenty pounds, required to extinguish it, shows the actual propulsive force of the heart's contraction, a much slighter pressure being sufficient to efface the percussion wave. We are now about half-way over the inter-vertical space, as we may call it. The next motion traces a curve with its concavity upward, and the notch from which it starts is called the aortic notch, and the impulse ends with the closure of the aortic valves. The second elevation is due to arterial expansion, and the whole stroke ends with a gradual fall of the stylus to the base line corresponding with the collapse of the artery. This base line, drawn through the bottoms of all the vertical lines, Marey's *ligne d'ensemble*, is curved, with its convexity upward on forced expiration, and conversely, on forced inspiration, it forms a downward curve, and might be called the respiratory line. The whole pulse, then, is divided into two parts, corresponding with the contraction and the dilatation of the chambers of the heart; and we are now prepared to see what the deviations from these normal characteristics indicate, as derived from a few simple inductions.

First, the graduated amount of pressure required to efface the tidal wave shows a hard or a soft pulse. Secondly, the verticality of the percussion stroke and its proportion to the tidal wave show a slow and feeble or a sharp and strong heart action. Thirdly, the height of the tidal stroke shows the amount of blood expelled from the ventricles. Fourthly, the degree of convexity of the succeeding curve indicates the amount of obstruction to the arterial collapse from any cause. Fifthly, the dicrotic ascent or rebound indicates disturbed relations between the heart's contraction and the arterial tension. Sixthly, the spaces indicate the relative duration between contraction and dilatation; and seventhly, the convexities of the *lignes d'ensemble* show the effect of the act of respiration upon the pulse.

The pulse of every individual is as characteristic of him as his intonations or carriage, and we do not doubt but that the sphygmograph might sometimes settle questions of personal identity; but in disease the pulse loses this individuality, and varies with the general circulation. The sphygmograph has differentiated between diseased conditions of the brain, which even the ophthalmoscope had left in doubt. But it should not be forgotten that its action is circumscribed and its value limited. It is the index of the vital and dynamical condition of the circulation alone. We have only to add that tracings can be taken from the apex-beat of the heart, when they are called cardiographs; they are wanting in the finer details we have above specified.

The Ophthalmoscope. — What we have to say of the ophthalmoscope will be limited to its uses in general diseases; with its employment by the specialists in the examination of local affections we have nothing to do. Nor is it necessary to describe the well-known little mirror which is a part of the programme in the visit to the "ophthalmic surgeon." Invented by Helmholtz, but brought into its present use and nearly perfected by Liebreich, it certainly has worked a revolution in ophthalmic science. It may not be superfluous, however, to remark, that the instrument in question is primarily a concave reflecting mirror with a perforation in its centre, which catches the rays from a light placed by the side of the patient's head, and throws them back to the bottom or *fundus* of the eye, which is itself a part of the magnifying power. Any transparent reflecting body is an ophthalmoscope, and with an ordinary lamp sufficient light is returned from the concavity of an ordinary watch-glass to exhibit all the details at the back of the eye; and it is said that it possesses the advantages of not requiring dilatation of the pupil by atropia. We do not believe, however, in simplifying or extemporizing processes in so important a matter as diagnosis of optic changes. The most perfect instruments and skilled manipulation, with every accessory to facilitate the examination, should be made use of, nor should our own judgment be trusted till after long practice and many comparisons.

The specialists Graefe and Liebreich were the first to observe the effect of constitutional lesions in the structure of the eye; and although great progress has been made in their study by both French and English physicians, the first English classic on the subject is but hot from the press, — the beautiful volume by Dr. Allbutt. Ophthalmoscopy has been for years gaining ground in medicine entirely distinct from its specialistic utility. But a short time ago an eminent London physician said to the author, "It is nonsense to pretend to localize diseases within the encephalon; ingenious guesses you may make, but such guesses seldom prove to be worth much in the dead-house."

Clinical observation in this direction has been stimulated by the great advance in our knowledge of the morbid and the minute anatomy of the central nervous system. The brain is so complex and inaccessible an organ that it has kept out of the reach of the rigorous analysis which has of late changed the whole aspect of medicine. The inspection of its actual morbid processes will go far to disperse those transcendental habits of thought which, driven from every other position, still have their foothold in the brain, and to establish the fact that as its functions are only the movements and relations of its tissues, so the diseases of the encephalon can only be the abnormal action of its component parts.

Disturbed vision or absolute loss of it has always been known as an attendant upon diseases of the brain. Soon after Bright's discovery of the connection between albuminuria and renal disease, amaurosis was noticed as an occasional symptom of the new disease. The ophthalmoscope discloses not only the mode by which sight is thus affected, but that very process itself makes important revelations as to the remote cause residing in the kidneys. It not only tells what we could not otherwise know, but it is sometimes the only solution of a difficult problem, and in distinguishing and foretelling results its value is immediate and irreplaceable.

But it must not be forgotten that the use of the ophthalmoscope in general medicine is limited to that state of the intracranial circulation shown in the vascular system of the optic nerve and retina; nor is it infallible here. As we have intimated, the interpretation of phenomena by it is not easy, and the absence of change in the retina may coexist with abnormal circulation.

The indication of cerebral disease through the optic nerve is due to its great vascularity, its large share of connective tissue, and its contiguity with the parts at the base of the brain. The nerve and the retina are independent of each other in their vascular supply; the central artery and vein of the retina lie among the fibres of the nerve, but distribute no branches to it. But in the optic disk, which is the great centre of observation, a network of vessels connects together the nerve and retinal arteries, etc. The disk therefore is closely connected with the cerebral vascular system, and is the best index of its condition and disturbances. An inflamed or congested optic nerve may be watched from hour to hour, and false conclusions be avoided, even if the cause cannot always be known and located, and its nature, often more important than its seat, be ascertained. Before the connection between changes at the back of the eye and the effect of intra-cranial blood pressure upon vision were known, the utmost confusion prevailed as to the cause of the disturbance. At one time a tumor would be found pressing upon the optic nerve or ganglia; at another identical phenomena would occur without tumor, and the sympathetic system, the original sin of baffled nerve science, would be suggested as the offender. The most careful clinical observers are still in doubt as to the actual value of optic changes in the diagnosis of tumor, though Dr. Allbutt avers that nothing is more certain than that "intra-cranial tumors commonly give rise to changes in the optic disk." Without entering into any discussion of disputed points, we propose, in accordance with our plan, to state a few illustrations of the clinical uses of the ophthalmoscope.

The "choked disk," *ischœmia*, is due chiefly to such causes as distention of the ophthalmic veins, inflammation of the brain membranes, hydrocephalus (the affections of youth), and tumors; conversely, acute and chronic softening, hemorrhage, hardening and arterial degeneration (the affections of age), do *not* cause it. The appearance called neuro-retinitis is an extension of inflammation from the brain, especially if its seat be near the optic tracts. What seems remarkable is, that no inferences can be made as to the state of the optic disk from degrees of vision. Choked disk, nerve inflammation, and advanced atrophy may all exist without any affection of sight, without pain, and without sensitiveness to light.

The study of some particular affection will give a better insight into the value of the instrument in general diseases than any other course, and we will take for this purpose epilepsy. Between the paroxysms of epilepsy, the optic disk is observed to be of a deeper red, the vessels are larger than normal; during the convulsions the disk is of a pinkish color, the arteries are small, the veins large; after the fit the disk is pale, the arteries small, and the veins are unchanged. As consciousness returns, the disk becomes of a deeper red, the arteries are larger, and the usual retinal appearances return. The stage of stupor indicates a general condition of anæmia. These appearances confirm the present theory that epilepsy is due to anæmia, and not to congestion of the cerebral vessels. If maniacal excitement follows the fit, there is even more congestion. The degree of congestion is in direct ratio to the number of fits and their severity. Now when the fits are reduced in number by bromide, the congestion is lessened; but if the fits recur with their former frequency, the congestion returns. It is inferred therefore that the reduction of congestion is not due to the immediate and direct action of the bromide on the blood-vessels, but is due to the absolute reduction in the number of the fits, possibly through some other action of the bromide, which loses its power to control the morbid tendency after the constant vascular disturbance caused by the fits has led to marked passive congestion, but frequently controls it when congestion is not so far advanced. We thus arrive at a modification of the general belief as to the action of bromide absolutely, and at some knowledge whether it is likely to be of benefit in a given case.

In renal disease the most conspicuous change is retinitis, with subsequent degenerations of and about the disk, so characteristic as to be at once recognized as due to albuminuria; not confined to any one form of renal disease, but most common with contracted granular kidney. It is believed that these initiative changes in the retina are set up originally by uræmic poisoning. The mirror reveals two classes of eye-affection, due to uræmia, which are sudden and temporary, and gradual impairments arising from visual degeneration.

Spinal disease, if chronic or if slow in access, is detected by optic changes. If it arise from injury, the higher its seat the sooner the after-changes appear. These changes are, first, simple primary atrophy, which is *never* the result of injury, but is common in chronic degeneration of the cord and in *locomotor ataxia.* Secondly, indistinguishable retinal arteries with swollen, dark, and tortuous veins; the disk red, its borders lost; these are seen only in injury, never in degeneration or ataxia.

As new instruments of precision open new avenues to knowledge, so an improved method stimulates research, and the mind itself is invigorated by the new opportunities, and from habits of accurate and industrious observation comes that intimate knowledge which is founded upon facts, however they may oppose tradition.

The Thermometer in Disease.—In 1754, Antonius de Haën, the first known teacher of clinical medicine in the Hospital of Vienna, taught his pupils to ascertain the temperature of the body in fevers according to the measurements of the thermometer, and not through the impressions received by the hand. It had not escaped notice, even at that period, that in the cold stage of ague, with chattering teeth and shivering skin, pallid and cold from contraction of its blood-vessels, the temperature of the body beneath was rapidly rising, and even with the rude instruments of the period the increase of heat could be accurately measured. The hand of the physician and the feelings of the patient are alike fallacious and unsatisfactory.

The instrument of precision now exclusively used in observations of animal temperature is a sensitive mercurial thermometer, graded between 85° and 115° Fahrenheit, self-registering, and measuring with fifths or even tenths of a degree. As a rule, the temperature is taken at the armpit, the skin being folded over so as entirely to cover the bulb, at different periods both of the day and night, and the daily changes are accurately noted on the proper thermometer charts. We must start from the normal standard of fluctuations within the limits of health, and with the correlations of animal heat with the pulse and respiration.

The normal heat of sheltered portions of the human body is 98°; and a rising above 99°.5, and a depression below 97°.3, if persistent, are certain signs that disease of some definite type is present, or, as we should express it, some special deviation from health. But there have long been on record observations on normal temperature under variable circumstances within the limits of health: those communicated by Sir John Davy to the Royal Society disclose the following facts: —

In temperate climates the *maximum* temperature is in the early morning; after waking it fluctuates till nightfall, and is lowest about midnight, but the average difference is less than one degree (0°.82). In tropical regions the *minimum* is in the early morning; after waking it fluctuates, and is highest during the day. Davy also observed that "an undue degree of elevation was some criterion of the intensity of diseased action."

Animal heat is affected by a great variety of collateral circumstances, but the great distinction between the variations of health and those of disease is, that the first are temporary and within narrow limits, amounting to mere fractions of a degree; those of disease are of much greater extent, and persist during the continuance of such disease. Besides changes due to physical exertion, atmospheric changes, etc., it is ascertained that sustained mental exertion depresses heat half a degree; that after a full meal or the use of alcohol, heat is at first reduced, as digestion advances the temperature rises; that the average temperature in the tropics is one degree higher than in temperate zones; that the temperature is more sensitive and more readily and rapidly affected than either the pulse or the respiration, especially in disease. The degree of abnormal increase of heat is usually in proportion to an increased frequency of the pulse (about one degree to ten pulsations), and is in direct ratio to the severity of other general signs of disease; and where disproportion or incongruity exists between the heat and the pulse, or other febrile phenomena, as sometimes happens, the accurate measurement of the temperature is the most to be relied upon. The maintenance of the temperature within its known normal limits is a complete assurance that any disturbance shown by other clinical indications must be local and unimportant; and in military practice it discloses whether disease is feigned or real.

The conditions in which the thermometer serves a purpose which no other means can attain, are fever and tissue-waste. The essential element in fever is preternatural heat. Our knowledge of the natural history of febrile diseases has reached great exactitude and certainty during the past few years, but heat, after all, is the important feature. Whatever other theories have prevailed during twenty centuries, heat bears the same relation to fever as in the time of Galen. It is never absent; without it fever cannot exist. Rigors and chills are mere external phenomena; the sensations of heat and cold are subjective impressions due to the special condition of the peripheral nerves, not to any absolute condition of the temperature; and conversely, while the skin may be ice-cold to a bystander, the patient may feel that he is burning up within.

Some of the most exact and useful observations were made long ago in our own country by Dr. Joseph Jones, late Surgeon-General of the Confederate forces; but beyond everything in the way of recorded observations are those of Wunderlich, the Leipzig professor, whose book, translated by the New Sydenham Society, contains the record of half a million of exact thermometric observations, following the continuous process of nearly every human form of disease, and comparing the results from more than five thousand patients. Among them are instances where disease was demonstrated by the thermometer before it was possible to detect it through any other means, and sometimes a definite diagnosis was based upon a single observation. Sir John Davy gives a singular instance of rise in temperature where it was impossible to recognize disease by any of the ordinary methods. A lunatic soldier had for many weeks a temperature of 104°. The insane do not suffer from cold and heat like others, and certain organic lesions are apt to occur in them without the usual symptoms. This man made no complaint; his appetite and digestion were good. He died at the end of a month of acute tuberculosis, without any other symptom from first to last than this great and persistent elevation of temperature. There were ulcers in the larynx which had not affected his voice; there were large cavities in the lungs which had not caused cough; there was ulceration in the intestines without diarrhœa; and various other lesions, all masked and latent.

There is no form of illness characterized by fever which the thermometer cannot accurately distinguish, and recognize the type of; and if it be of an anomalous type, its departure from known types may be defined and described. But its most important use is to mark the daily changes in the condition of the individual affected: the development and progress of his febrile state, its abatement, subsidence, and defervescence, and the approach of local lesions. The term "defervescence" indicates the period during which the temperature of the fevered body is declining from the intense degree of heat which marks the state of accession towards the normal standard; if sudden, the defervescence is called *crisis;* if gradual, *lysis.*

Some of the best established clinical inductions in medical thermometry are as follows: The highest temperatures just before death have been observed in scarlet fever and in lockjaw. When the temperature goes above 99°.5 we know that the patient is ill from some definite cause; if it rises to from 101° to 105°, febrile phenomena are present with great severity; if it goes above 105°, the patient is in imminent danger; in a range from 106° to 109°, a fatal result is all but certain and is immediately at hand. In any disease, a temperature of 104° or 105° shows that its progress is not checked, and that complications are still possible. The thermometer, therefore, is the best and earliest warning of an additional development of disease, or that some visceral complication has occurred; and if in any accurately distinguished case of disease the temperature departs from its normal and typical range for that disease, we are to anticipate trouble. As convalescence only commences when the disease process ends, we know that it cannot occur till the normal temperature returns and maintains itself through all periods of the day and night, and during convalescence any considerable fall of the thermometer foreshadows collapse.

The morbid development of heat is sometimes associated with more, sometimes with less, abundant bodily excreta than in health. The temperature and the amount of the excretions bear certain as yet undetermined relations to each other. The loss of weight in a patient is due to an increased and rapid elimination of material with increased tissue changes, and is associated with increase of temperature, — more certainly as regards urea than with the other excretions; whence it is concluded that heat is attended with increased elimination of urea, and therefore with greater tissue change. While the product of metamorphosis, as determined by the excreta, may be diminished in fever, there may still be increased metamorphosis with less elimination. Finally the pulse, the respiration, and the temperature, each and all, represent forces at work within the living body which can be measured with great exactness, and such measurements show how closely the expenditure of forces is related to the excreta which represent the waste of tissue in health and in disease; show, also, the decline in that nervous control that regulates the functions in health: that is, in the force that limits the working of all other forces.

Localized electricity, or electrization, as it is commonly called, is now conceded to be a most powerful agent in the treatment of disease; but, to borrow the language of Dr. Russell Reynolds, " it is useful, useless, or mischievous, according to the manner in which it is applied"; and although the greater part of what we have to say about it will be as a mode of treatment, it is introduced here by virtue of the rank it has just begun to take as a most profound and scientific method of diagnosis.

The term "electrization" is generic, and should never be otherwise employed. It is common in medicine to restrict electric effects to the three varieties, of friction, of contact, and of induction. Frictional electricity, which Faraday himself called the Franklinic, is also known as " static "; while the two other forms are confounded under the common name of " dynamic." A primitive form of the static was the now obsolete electric bath, or the immersion of the feet in buckets filled with electric eels; the only forms of its present application are through sparks, or by means of shocks from the Leyden jar, or by insulation upon the glass stool, when the patient is charged by which the wave as transmitted is increased in apparent size, or rather exaggerated in action, by movements similar to those of a small upon a larger wheel. An ivory pad rests upon the artery, usually that at the wrist, the rush of blood along the vessel lifting the pad perceptibly even to the eye. But however slight the movement, it is sufficiently exaggerated by the levers to procure a distinct tracing of its normal outline and of its every variation. The impulse received by the ivory is transmitted by a long slip of light and flexible wood, at the opposite or free extremity of which is affixed a fine steel point, which we will call the *stylus*. By a secondary arrangement, a slide, placed at a right angle with the lever and in contact with the stylus, is made to move by mechanical appliances from right to left across its point, so as to give when in motion, to the liftings of the pad and to the movements of the lever and of the stylus, the effect of tracings in free running hand from left to right. The rate at which the slide moves is made to correspond with the time required by each pulse-wave to effect distinctly the whole of its individual tracing, that is, the rate of about four inches in ten seconds. At this rate of speed, each impulse occupies about four tenths of an inch in space upon the slide, and we here premise that the spaces and lengths to be spoken of assume a healthy pulse, without pressure and with the motion of the slide graduated to this rate. We may also state that the instrument as it was left by Marey, like most mechanical appliances requiring practice and skill in manipulation as well as judgment in induction, has usually sunk out of sight as fast as introduced. It had faults and imperfections which speedily destroyed its reputation for reliability, and at last it came to be scarcely mentioned even in medical text-books. In fact, it had dropped into what seemed to be its natural place as simply a physiological curiosity. The monographs upon its uses, especially that by Dr. Burdon-Sanderson, are more in the nature of scientific treatises than adequate guides to its clinical use.

These considerations were probably what induced Mr. Mahomed, a student of Guy's Hospital, to commence an extended and exclusive study of the subject, and by his improvements in the instrument, accommodating its movements to the feeblest

pulse, and with the advantages of a nearly perfect mechanism, he has been enabled to present, not only a new method, but a new literature of the sphygmograph.

Although a pen actually dipped in ink may be made to do sphygmographic writing upon white paper, the best register is a tracing by the steel point upon smoked paper made portable and permanent by varnish. And if the reader will now attempt to form a mental picture as he goes along with us, we will endeavor to clear up the mystery of the sphygmograph as intelligibly as it can be done without diagrams, at least to give some conception of the simple process by which the heart is made to write out a description of its own ailments at the end of a telegraphic wire a thousand miles away.

The first impulse imparted to the pad by the artery sends the stylus suddenly upwards on the smoked paper, scratching a straight line of about half an inch or less in vertical height. This first up-stroke is called the percussion stroke, and proceeds from the shock received by the blood-column as a solid body, on the bursting open of the aortic valves as the blood leaves the heart for the general circulation,—a shock communicated almost instantaneously to the whole arterial system. In the normal condition this stroke is distinct from the true pulse-wave; if confused or identical with it, it becomes a sign of disease. It is the index of a healthy suddenness and force of the heart's contraction, and measures its muscular strength or weakness in acute disease, but it is not a guide as to the relative amount of blood forced into the aorta for distribution. After marking the percussion stroke, the stylus next drops about a tenth of an inch, at a slight distance away from the vertical line and making a very acute angle with it, and its descent is cut short at this point, and sometimes pushed slightly up again, by the distension of the artery by the true tidal wave. Its next fall forms a curve with the concavity downwards. Up to this point the whole tracing is called the percussion wave, from the starting-point of the percussion stroke to the end of the first curve; and the space between the vertical line and the next regular ascent of the stylus measures the time elapsing between the opening of the aortic valves and the arrival at the wrist (of the tidal impulse). Next follows the

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inution in the amount of bile and bile solids secreted after the administration of large doses of calomel." This was the state of the question in literature.

Dr. Bennett tells us that his committee comprised "the skill of the anatomist, the analytical power of the chemist, and the varied knowledge, theoretical and practical, of the histologist, physiologist, physicist, pathologist, and therapeutist, as well as the physician whose knowledge of diagnosis is unimpeachable." Every instrument, appliance, and chemical, together with a public hospital and the sum of one hundred and twenty-five dollars (!), were placed at the disposal of the committee. At their first meeting, November 16, 1866, the first and, as we think, fundamentally vicious conclusion was arrived at, that no kind of examination of the *dejecta* could yield trustworthy results; supposing that the characteristic constituents of the bile found their way into the alvine evacuations unchanged, "the imperfections in the analytical method (!) render their quantitative analysis impossible," either by Hoppeseyler's method or by the simpler process with alcoholic extracts. (Hoppeseyler, professor at Tübingen, estimated the amount of bile acids from the effect which their solution exhibited upon the ray of polarized light, which Professsor Tyndall's experiments have made comprehensible.) We are to infer, therefore, that neither the bile acids nor the coloring matter were determined or estimated. For an examination of the excreta, they substituted the formation of biliary fistulæ in living animals, and the collection of the amount directly through such fistulæ from the gall-bladder.

The committee admit that, under the action of purgatives, unchanged bile is occasionally discharged from the system; and it is also evident to us, from an inspection of their numerous tables, that the biliary secretion was increased after the first dose of mercury. We observe also that the animal began to *fail* soon after the process of drawing off its bile commenced; that in fact the very organs and tissues experimented upon were on the road to death; that it was not only an animal which was not man, but a wounded and a diseased animal.

From the experiments, however, such as they were, and Dr. Bennett states that they were carefully repeated under every varying circumstance that could be thought of, the following conclusions were reached: first, that in whatever form or dose, whether continuous moderate doses of blue-pill, minute and frequent doses of calomel, or large doses of it, mercury utterly fails to stimulate the liver. The constitutional action of mercury excited both slowly and rapidly by corrosive sublimate produced the same results. In poisonous doses the bichloride produced a marked diminution in the flow of bile. Mercurial inunction was followed by negative results; and it was regarded as proved that, so far from increasing, mercury, by its general depressing action on the system, actually diminished the amount of bile.

Now we submit that, as depression does lessen the vigor of the secretive process, a much more potential cause for depression is to be found in the condition of the animal from his wounds and the presence of the canula, and from the actual wasting disease engendered by the deprivation of bile, than lies in the giving of a few doses of calomel, which at first, as we have seen, before the constitutional symptoms began, actually increased the flow; and the next conclusions of the report corroborate this idea, for it was found, *secondly*, that abstinence from or considerable diminution of food checked the secretion of bile; and, thirdly, in deprivation of bile, emaciation comes on, the appetite fails, the excretions assume a peculiarly fœtid odor, and death occurs from inanition. Starvation diminishes the secretion, and nothing beyond giving food or supporting health increases it.

Whenever we hear of a *new anæsthetic*, we think of the time when the taking away of pain was to "harden society and rob God of the deep, earnest cries which arise in time of trouble for help," as the Scotch parsons told Sir James Simpson; and when even surgeons argued that "pain was a premonitory condition, no doubt fitting parts the subject of lesion to reparatory action," and that they would therefore "feel averse to its prevention"; when a famous living physician concluded a paper read before a London medical society, "Upon the Injurious Effects of Ether Inhalation," with queries as to "the desirability of removing pain"; when a great American surgeon declared, after some untoward details in giving ether, "that he would never again remain in a room where it was to be given."

After much experimentation for ether substitutes, a substance has been found which will actually manufacture chloroform in the blood, and, what is better, its invention is the result of purely *a priori* considerations. On the second day of June, 1869, Dr. Otto Liebreich, of the Pathological Institute of Berlin, introduced to the Medical Society of that capital what he defined as "a new hypnotic and anæsthetic agent"; this was the hydrate of chloral. Chloral itself was discovered some thirty years ago by Liebig as the product of anhydrous alcohol acted upon by dry chlorine gas, ultimating in a dense oily liquid, colorless, boiling at 210° with a sharp, pungent odor. Mixed with water this becomes the hydrate of chloral, and is converted into a white solid substance. The new agent became at once widely known, and in London Dr. B. W. Richardson, who is constantly experimenting with anæsthetics, was appointed to investigate it and report upon it.

The theory of its action, according to Liebreich, is that the hydrate of chloral, treated with an alkali, is resolved into chloroform, and into a formate which soon disappears; the blood is an alkaline fluid, therefore the hydrate, when it is absorbed, enters the blood, where its particles consume the surrounding alkali, and decomposition is effected after the required amount of alkali has been furnished by the blood. A minimum quantity of chloroform is then instantaneously formed, is set free in the tissues and passes to its first stage of action, the ganglia cells of the brain; as the chloroform increases in amount, its action extends to the spinal ganglia cells, and lastly to those of the heart corresponding with the slowest possible administration of chloroform, and passes out of the system as chloroform. From Liebreich's array of facts also was derived the necessary deduction that the agency at work was chloroform, chemically formed in the blood. There are few now who have not experienced or observed the profound and tranquil sleep produced by chloral; but it is the rival of opium rather than of ether, although it can be administered by inhalation. Besides producing sleep, it removes sensibility, reduces the animal temperature, causes extreme muscular relaxation, practically confirming the theory of its action as chloroform. Its physical action being clearly understood, its applications must be extremely varied, and in fact it is now employed to relieve almost every known abnormal symptom or condition of body or mind. Dr. Richardson's report concludes with a warm tribute to the "genius and industry of the distinguished Professor of Berlin who has placed in our hands so admirable and scientific a remedy."

With regard to *Cholera*, the novelty is in the treatment alone; its nature is universally understood. A poison is absorbed into and infects the blood, spoiling certain of its constituents, which are ejected through the mucous membrane of the alimentary canal. A primary blood disease is thus produced, undergoing enormous multiplication in the body; and the direct results of the alteration are changes in the function of respiration, while the copious discharges are the efforts of nature to throw off the noxious material, as a necessary process to recovery. From no other cause than a virulent blood poison does a person in full health become in a few minutes, and utterly without warning, shrivelled up, his whole body icy-cold, his face and hands turned purple, while death comes on in a few hours. We cannot refrain from reproducing the quotation very happily brought in by Dr. Aitkin: —

> "Its effect
> Holds such an enmity with blood of man
> That, swift as quicksilver, it courses through
> The natural gates and alleys of the body;
> And, with a sudden vigor, it doth posset
> And curd, like eager droppings into milk,
> The thin and wholesome blood."

The well-known and especial danger in cholera is also its proper and distinctive symptom, characterized by the French pathologists by the term "algide," the sensation and fact of *cold* being one of the most remarkable and constant phenomena; the thermometer in the axilla falling to 92°, more than six degrees below the natural standard in health, while under the tongue it is known to have fallen to 79°. Vomiting, purging, and cramps have long ceased to be regarded as essential phenomena. Hale and hearty men have been suddenly seized, and have collapsed, and died within five minutes, without any evacuation; and death has repeatedly occurred within two or three hours after access, without any other cause than stagnation of the blood.

Dr. George Johnson, long known to the profession in connection with the correct pathology of kidney diseases, communicated to the Medico-Chirurgical Society of London, in 1868, the doctrine that the poison of cholera was received into the system from without, by inhalation or in food and water, and absorbed into the circulation; that if the vascular excretion was checked, the risk of fatal collapse was greatly increased; and that the object in treatment should be, not to *excite* discharges from the mucous surface, but to facilitate the removal of matters lodged there, and that elimination of the poison from the system was the condition of recovery.

Half a century ago the English physicians in India "aimed to get rid of the offensive morbid secretions" in cholera, but it was quite natural to attribute collapse to the drain of fluid matters from the blood by the profuse and repeated fluxes from the bowels and stomach; and the treatment this view suggested was the "locking-up" plan by opium and astringents and by stimulants. Dr. Johnson's opinions were not well received, and violent controversy grew out of them. It was soon settled that the collapse was not due to the evacuations, but that these were, in fact, eliminative of the poison. To establish relations of cause and effect between them, it should happen that the more profuse the discharge the more decided and certain should be the collapse; while in fact the most hopeless cases were those of scanty evacuations or of none at all. Also the continuance of the discharge should cause a more prolonged, deeper, and more dangerous collapse. But, on the contrary, patients not only emerge from the collapse while the evacuations are going on, but a cessation of them is always a fatal sign. If a vein is opened in cholera, after a moment or so, the dark treacly blood grows brighter, and the patient has been known to cry out that "it had made a new man of him"; therefore collapse has nothing in common with ordinary syncope, which is relieved by stimulants, but would be disastrously affected by blood-letting. Dr. Johnson's own paper in the "Transactions" is immediately followed by another, containing details of treatment upon his plan, on a large scale, in which the results corroborated the theory, and which demonstrated the remarkable fact that recovery never occurred without a continuance of the discharges or their restoration, if previously arrested.

So great a change in medical opinion was effected by the new views, that Sir Thomas Watson, the president of the society, upon a careful revision, has fully recanted his own published opinions and adopted those of Dr. Johnson in the last edition of his well-known work on the Principles and Practice of Physic, and he pays their author a noble tribute by declaring that "he has by his methodical display of facts, by his close and conclusive reasoning, now triumphantly established his own views of the pathology and treatment of cholera."

Lörstofer's Corpuscles. — During the past few years much attention has been given to the connection between what are called microscopic growths and contagious and infectious diseases. In Professor Stricker's laboratory in Vienna, especially, attempts have been making to explain different diseases, particularly the infectious ones, by the presence of fungous growths in the blood, and in the secretions and excretions, as well as in the tissues of the body, but with hitherto only negative results. In the blood of syphilitic patients especially it was hoped to find traces of a low grade of organism. Could such once be detected, the discovery would not only have a vast specialistic importance, but would give a positive basis to an assumed theory. Dr. Lörstofer conceived that the negative results were due to low magnifying powers, and to the fact that the experiments had all been made with fresh blood in which such bodies may have existed in a state too minute for detection, and that they might *grow* to be visible (this very idea of growth, we may remark in passing, being corollary to the very idea underlying the research), if the specimens could be preserved for examination without destroying the organisms. Lörstofer commenced his experiments in August, 1871; and in January, 1872, at a meeting of the Vienna Medical Society, he announced the discovery of a form of corpuscle peculiar to the blood of syphilitic patients, and through which the diagnosis of syphilis might be made by a microscopic examination of the blood.

In specimens properly prepared, in from one to three days, he averred that certain minute bright corpuscles became visible, some immovable, others undulating; in a few days more they grew to the size of true blood corpuscles, of irregular shape, with one or more projections. In a few days longer a vacuola was found in the larger corpuscles, which soon extended over the whole body, and terminated the development of the growth, nor could their shrivelling and further retrograde development be arrested; their relations of causation were not asserted.

While Professors Hebra, Skoda, and Stricker indorsed Lörstofer's statement, and affirmed that they had tested it with almost uniform success, others who had long worked without success in the same direction were not satisfied. Wedl pronounced the bodies described to be nothing but fat cells, and declared that they could be seen a few hours after the preparation was made if water were added to the blood; but as Lörstofer's corpuscles do not acquire a visible size till the fourth day, and disappear at once if water is added, it was argued that Wedl *could* not have seen them at all, as he had violated Lörstofer's conditions. Professor Stricker here took up the controversy, and Lörstofer himself seems to have been left out of it. Letters from Vienna to the English and American journals stated that the war speedily became outrageously personal and offensive.

Stricker himself forms no opinion as to their true nature, but pronounces them to be formations hitherto unknown in the blood. Meantime a syphilitic patient in whose blood they had been uncommonly numerous began to show signs of phthisis, which drew attention to another point, namely, the possibility of a general ill-nutrition being concerned in their production, and in fact they were at once found in cases of cancer, of tuberculosis, of Bright's disease, and of anæmia after small-pox. The investigation therefore seems to be sufficiently advanced to pronounce the new organisms not exclusively pathognomonic of syphilis, but as existing in the blood in certain cases of defective nutrition from long-lasting chronic diseases, and more particularly from syphilis. As yet there is no warrant for denying their possible existence in the blood of persons suffering from acute diseases, or even in the blood of comparatively healthy subjects.

We have now completed our task upon a plan kept always in view; commencing with the general and larger relations of medicine, and showing where it would be better to reduce it in study to its clinical phases alone. We have selected the special subjects which best illustrate the latest or the highest methods in diagnosis, in therapeutics, and in pathology, and which were most likely to lend a uniform coloring to the picture. The medicine of to-day aspires to nothing more, and is content with nothing less, than to be the sum and the harmonization of all that can be gathered from observation and all that can be added by induction. It has sometimes been difficult in the sketch to avoid the appearance of marshalling before the reader a parade of imposing generalities; it was not always easy to escape from tiring him with burdensome details. And the success may lag behind the aspiration. Be that as it may, enough if only he, to whom nothing that is human is foreign, shall any more clearly discern the spirit that controls the science of modern medicine, or any more wisely distinguish the forces that direct its art.

W. O. JOHNSON, M. D.

ART. II. — ARTHUR SCHOPENHAUER AND HIS PESSIMISTIC PHILOSOPHY.

WE often hear people complain of the abstruseness of philosophy, and it may be no fault of theirs if philosophy remains unintelligible to them. But then, there are many other abstruse things, — celestial mechanics, for instance. Yet those who could not understand a single line of Laplace's work never think of denying the truth of mathematics, or the usefulness of astronomical induction, or the legitimacy even of astronomical speculation. This shows at once that the popular dread of philosophy cannot be due to what philosophy has in common with mathematics, namely, an abstruse terminology. Such a superficial difficulty would be as easily overcome in the one case as it is in the other, and the many attempts at popularizing philosophy would have been more successful than they have been if this were the only difficulty. Moreover, there is hardly any science that has not its peculiar technical terms, its slang, as it were; and it is rather unwise to complain of this, because these terminologies make clear and intelligible, through their terseness, what might be obscure and unintelligible in its verbose paraphrase expressed in popular language. The study of a work on algebra containing no algebraic terms or symbols would be a condign punishment for those who refuse to see this.

There must be a deeper reason why metaphysics are so persistently shunned, while the popularity of scientific pursuits is growing from day to day; and why a lecture, for instance, on the "Nebular Theory" would not fail to attract a large audience, while a lecture on the "Identity of Opposites" would hardly tempt a few curious idlers. The "Nebular Theory" is just as speculative as the "Identity of Opposites"; far more so, in fact, if the degrees of speculativeness may be measured by the number of data or analogies underlying the speculative inference. The difference must, therefore, lie in the credentials which the two lecturers present to their hearers. Both lecturers may be speculative; but while the one is a speculative mathematician, the other is a speculative metaphysician; that is to say, the one is a man known to be accustomed to absolutely true deductions and fairly accurate inductions, while the other is a man notoriously and avowedly fond of certain mental evolutions known to be uncertain in their results, and apt to appear flighty to the looker-on. And it is this appearance of flightiness and this uncertainty of results which account for the diffidence and the scorn with which speculative philosophy is looked upon by the average man of these days.

The phenomenon, then, is explained. But we cannot admit its legitimacy, considering that the shortcomings of philosophy, which are supposed to be its peculiar disabilities, are (notwithstanding appearances and popular beliefs) common to all the sciences, with the single exception of mathematics. Put jurisprudence to the test, and *summum jus* turns out to be *summa injuria.* Put medicine to the test, and *nil nocuisse* turns out to be its principal aim. The same uncertainty of results, the same uncertainty of method, we meet with in that part of the "exact" sciences which refers to the phenomena of organic nature, — in physiology and organic chemistry, not to speak of philology, geology, and history. And if doctors, no matter which faculty they belong to, are allowed to disagree, if lawyers are in duty bound to disagree, that they may find the truth more easily, and if religion is not given up as hopeless because there are three churches now which claim to be "the Catholic Church," — we have a right to ask, why should not philosophers disagree with the same impunity and on the same plea of finding the truth through its broken rays?

But we must apologize no further for introducing to the reader a man like Schopenhauer, who was not only a great thinker, but also a great writer, and whose literary popularity has opened for his philosophical doctrines a far wider sphere of influence than they would have obtained if Schopenhauer had been, like his rival philosophers, a university professor. The intellectual movement, of which he was the last representative, belongs, no doubt, to the past; but some of his ideas are so closely connected with modern thought and with the many open questions and unsolved problems of our days that they ought not to be overlooked by the present generation of thinkers.

We have but little to say about Schopenhauer's life. He was born in 1788, on the 22d of February, at Dantzic, Prussia. His father was a merchant. His mother, Johanna Schopenhauer, was an authoress whose novels and other writings enjoyed considerable popularity in Germany during the first half of this century; and even his sister Adele had some success as a writer. He passed some years of his boyhood in France and in England, together with his parents. In 1809, he went to Göttingen to study natural history and history, — a strange and characteristic combination of studies. The Professor of Philosophy at that University was G. E. Schulze, who soon recognized the young student's real vocation, and, taking an interest in him, gave him the important advice to confine his preliminary studies to Plato and Kant, and to avoid, above all others, Aristotle and Spinoza. How scrupulously this advice was followed, we shall see by its fruits.

In 1811, Schopenhauer went to Berlin to hear Fichte, in whom he hoped to find a faithful follower of Kant. But Fichte was not a Kantian, after all, and the disappointed student soon gave him up, resolved, it would seem, to strike out a new and independent path for himself. Driven away from Berlin by the war, in 1813, he went first to Jena, where he obtained his degree, and thence to Weimar, where he became acquainted with two men whose influence can be traced in Schopenhauer's writings as clearly almost as that of Plato and Kant. These two men were Goethe and Friedrich Majer, the Orientalist, who initiated him into the mysteries and beauties of Oriental religions. Schopenhauer was struck with the logical connection existing between Brahmanism and Buddhism, and he recognized in the latter a necessary reaction against the former. Having, at the same time, found out certain analogies between Brahmanism and Christianity, which have in common, if nothing else, an incarnated suffering God, he began to feel the want of something that might be to Christianity what Buddhism was to Brahmanism. These remarks will suffice to explain some features of Schopenhauer's philosophy which might easily be mistaken for poetical or fanciful. If they are either, they are so by accident. They were never intended to serve as ornaments.

From 1814 to 1818, Schopenhauer lived in Dresden, in perfect solitude, and it was during these years of study and retirement that his ideas began to ripen into a full-grown system of philosophy. His principal work, "The World as Will and as Phenomenon," was published in 1819.

But there was no steadiness in Schopenhauer's career. He was, what German philosophers rarely are, a man of independent means. And not only did he make a free use of both his wealth and his independence, but he seems to have felt an uncharitable and inexplicable dislike to all paid and professional philosophers. It is common enough among professional men to feel a certain contempt for wealthy amateurs. But few of the latter have ever reciprocated the feeling as fully as Schopenhauer. "I live for philosophy, not on it!" he used to boast. Let us hope that he was duly grateful to his father.

Notwithstanding his doctoral dissertation of 1813, "On the Fourfold Root of the Principle of Sufficient Reason," and notwithstanding the literary merits of his great work, published in

1819, Schopenhauer remained unknown as a philosopher. Perhaps it was because he was a private *dilettante*, perhaps because he was a novel-writer's son, whose name was hopelessly associated with popular literature, and because his style only enhanced and strengthened that association. Germans do not attach the same importance to style as Frenchmen. Their philosophy is, and certainly was fifty years ago, a goddess of stern features and severe outlines. Why should she ever become a Bayadere for the mere amusement of mortal men ?

For many years the world lost sight of Schopenhauer. After a visit to Italy, he went to Berlin in 1820, and established himself as a *Privat-docent* or unpaid lecturer at the University ; but his lectures lasted only six months, although he allowed his name to remain on the catalogue for several years. He left Berlin in 1831, soon after the outbreak of the cholera, and went to Frankfort on the Main, where he took up his permanent abode, and where he continued to reside until his death, in 1860.

Having remained in obscurity for seventeen years, and having broken this long silence only by the publication of a Latin treatise " on colors " in 1830, Schopenhauer once more reminded the German public of his existence by publishing, in 1836, a small work, " On Will in Nature." But Germany, it seems, was still too full of Hegel to pay much attention to the charming disquisitions of the novel-writer's son, and the honor of having been the first to recognize his philosophic merits belongs to Norway. The Scientific Association of Drontheim awarded a prize to a new essay of Schopenhauer's, " On the Freedom of the Will," in 1839, and elected him a member of their society. And encouraged by this success, he competed, though unsuccessfully, for another prize which the Royal Society of Copenhagen had offered for the best essay on " The Basis of Morals."

His reputation now began to grow, and, with it, the demand for his books. In 1844 a second edition of his principal work appeared, and in 1851 he published his last and most popular work under the title of " Parerga and Paralipomena."

Schopenhauer continued to lead a very retired life in Frankfort. He never married, and never had many friends. On his long and solitary walks his poodle was his only companion. Only in his old age he associated somewhat more freely with men; and although he had become an incorrigible pessimist and a decided misanthrope, he was much respected and esteemed by others, and had fewer enemies than gregarious and successful men are apt to have. He was a kind-hearted and charitable, but not an amiable man. Nor can it be said that he was always just and fair-minded as an antagonist, or sufficiently careful in the choice of his polemical expressions.

We now proceed to lay before the reader the outlines of Schopenhauer's philosophy, and willingly engage to be as clear as the subject will permit. Let nobody hesitate to peruse these pages, provided he suffers from nothing worse than want of philosophical knowledge. But to insure the fulfilment of our promise, and to render the desired clearness possible, we beg permission to make some introductory remarks, without which any scientific exposition of Schopenhauer's philosophy would remain either unintelligible or unenjoyable.

Philosophy is the science of knowledge; that is to say, it has to answer the questions: Is there any truth? If there is, is it knowable? In other words: Is human knowledge possible? and if it is, what are its conditions and limitations? what the ultimate *criteria of truth?* The question was raised in the earliest days of Greek philosophy. Heraclitus, a speculative nature, affirmed that he knew everything. Protagoras, the Sophist, said that he knew nothing, except the difference of good and evil. And Socrates, we know, came to the same conclusion as Protagoras.

But the human mind cannot abide, and never does abide, by these results. It may be unable to know anything beyond its own incapacity for knowledge, but it refuses to dwell on this incapacity. It craves certainty, or the appearance of certainty, or the hope of obtaining certainty. And when reduced to Nihilism or to Agnosticism by its own critical powers, it reverts to speculation, or, if it cannot soar so high, to empirical science, where it can indulge in the luxury of floating on the phenomenal surface of things and of seeking comfort in the appearance of absolute certainty. Thus metaphysics and physics are the rightful successors after a reign of scepticism. And Socrates himself began to speculate, as though unable to subsist on the fruits of his own criticism.

If we now follow the long history of philosophic speculation (we will say) from Heraclitus to Leibnitz, we find no material change in the aspirations of philosophers, it being essential to speculation to ignore, and, if necessary, to deny, the limitations of the intellect. Leibnitz still asserted what Heraclitus had asserted twenty-two centuries before him, that he knew everything. But he did not repeat the crude apothegm of the Greek. He said that the mind has potential knowledge, as the seed has potential flowers, and that there were degrees of development and of success dependent on the more or less distorting and obscuring influences of the outer world. That was a great progress. But, unfortunately, truth can be but one, and speculation had, by the end of the seventeenth century, revealed three different truths, represented by Descartes, Spinoza, and Leibnitz. The philosophic world was divided between Dualism, Monism, and Pluralism. A compromise seemed impossible.

Descartes's universe consisted of the *res extensa* and the *res cogitans*. The extended thing was such by virtue of its inherent dimensions, and the thinking thing was such by virtue of its *innate ideas*. But the cause of everything was God, whose *æterna assistentia* produced not only the phenomena in nature, but helped us to all real knowledge and experience, to which the "innate ideas" alone could never help us.

Spinoza regarded thinking and extension not as opposites, but as the two essential attributes of the one absolute substance, which was all in all, like the *ὄν* of the Eleatic school. And just as the Jewish mind of Spinoza could not abide Descartes's Dualism, so the mathematical mind of Leibnitz would not abide Spinoza's Monism. He, too, mixed the *res cogitans* and the *res extensa* into a totality, but this totality was not a substance. It was an aggregate of *monads*, each thinking and having extension at the same time. Why make a dualism of light and darkness? Both are a multiplicity of rays, either spectral or invisible.

It was difficult to choose between such leaders. The English mind, in fact, refused the choice altogether. Being naturally averse to speculation, it had reduced philosophy to induction. But induction presupposes empirical data. Empirical data are liable to criticism ; and criticism, in its turn, is disarmed and rendered useless by scepticism. Thus Bacon, Locke, and Hume constitute a natural succession, and what they have in common is, to this day, the basis of all English philosophy. Bacon had opposed all *a priori* thinking. Observe and infer was his rule, because induction is safer than syllogisms. But what is the difference between them ? Induction is a syllogism with a suppressed major premise. That major premise is always a general proposition, and, as such, the enunciation of a thought. And if the empirical mind dreads generalizing as dangerous and unsafe, does it avoid these dangers by merely hiding them from itself ? All empiricists have this in common, that they do not know when they are thinking. Men think as they walk. They use hundreds of muscles without being conscious of any one of them, or of the various orders sent to each muscle by their brain.

Bacon was right in warring against the old scholastic syllogism, in which, usually, neither premise was sufficiently sound to warrant a conclusion. But induction deceives itself if it pretends to draw conclusions from one premise. I observe a phenomenon ninety-nine times, and infer that it will happen the hundredth time. If it does not, it follows, not that the inductive method is wrong, but that this induction was founded on a weak premise. And if the ninety-nine observations were correct, where can the flaw lie ? Obviously in the suppressed *præmissa major*, which, in inductive reasoning, can never express more than a probability or plausibility. The syllogism now stands thus: A thing which has happened often is *likely* to happen always. This thing has happened ninety-nine times : therefore, it is *likely* to happen always.

How much of this inductive syllogism is founded on observation and experience ? Nothing but the minor premise. The first premise, being a general law, is thoroughly speculative, and the conclusion, being the result of a synthesis of the special and the general, is thoroughly metaphysical. And if observation is the only legitimate source of knowledge, the important question arises, How do we come to know any general law, or, in fact, anything general or abstract ?

We can observe nothing but single things. Their connection, causal or analytical, is never observable, can never be experienced. When we infer the hundredth fact from ninety-nine observed ones, or when, after having observed two facts, we call one the cause and the other the effect, we overstep the limits of observation. We have seen the planting of a seed, and we have also seen a plant. The senses can show us nothing more. But why is the plant the result of the seed? And where is the origin of our knowledge concerning generality, causality, and necessity?

Bacon was not the man even to broach this question. But Locke and Hume have answered it, each in his own way. Locke said that although generality, causality, and necessity were not, as such, observable, they were, nevertheless, *derived* from observation, or, rather, from observed data. The mind (although endowed with the mysterious power of *deriving* one thing from another thing) was nothing but a reflector, the recipient of impressions, a *tabula rasa*, having neither "innate ideas" nor anything else innate. Locke forgot, if he ever knew it, that a reflecting surface is never purely receptive. It reacts, and must, *pro tanto*, have spontaneity. A *tabula rasa*, be it ever so *rasa*, is still a *tabula*, is still something. And why should it be less? What if the human mind had no concrete reality at all, but were a mere focus of a reflecting world,—like Professor Pepper's ghost, the product of converging rays, which disappears as soon as the mirrors are shifted? Either the mind is purely receptive, as Locke maintained, and then it cannot work up its impressions into ideas; or it has some spontaneity, and then experience ceases to be the only source of human knowledge.

Hume, without being much of a philosopher, has the merit of having felt the force of this dilemma. He did not believe in *innate ideas* any more than Locke did. Like Locke, he *derived* everything from observation and experience. But this power of *deriving* something from something else, he honestly tried to account for. And as the outer world could not furnish it, its origin had to be sought in the mind itself. There it exists, not ready-made like an "innate idea," but potentially as an attribute of the mind. The phenomenal world furnishes the mind with nothing but single items in (spatial) juxtaposition and (temporal) succession. But the mind furnishes their connection by arranging the observed data in certain rubrics of its own, called mental "categories." In this way only does the mind discover juxtaposition and succession, sameness and difference; that is to say, space and time, causality and generality. Hume had not the courage to go a step farther, and to add necessity to the categories of understanding. There are no *laws* of thought, he said. Experience shows the absence of uniformity in human thinking, and all that can be safely affirmed is, that each mind thinks according to its own *habit*. Now, habit may be defined as subjective necessity. The mind mistakes its own habit for outward necessity; and what we call law (or necessity) is nothing but a vision or hallucination induced by our habit of observing certain groups and certain sequences of phenomena. This thorough subjectiveness constitutes Hume's scepticism. On applying his somewhat shallow doctrine of Habit to ethics, we discover at once the impossibility of all ethics, there being no firm basis for any moral law except habit. Some nations legalize infanticide; others punish it. Each does what it does from habit, and one view may be as good as the other.

Nothing, then, remains but a world of unconnected phenomena and the human mind, with its power of perceiving them and its *habit* of connecting them. We may gain experience, but there is no law and no necessity in the world. There may be learning, but there can be no real science, no truth, no certainty anywhere.

This roused the German mind. Historically, we are indebted to Hume's Essays for Kant's *Kritik der reinen Vernunft*. Not that Kant was alarmed at Hume's scepticism. On the contrary, his own dislike to the dogmatism of the old school metaphysicians was so great that he was eager to seize the new weapon himself, which had proved so brilliantly destructive in the hands of English philosophers. Only he thought that the havoc had been unnecessarily great. He therefore undertook to submit the whole question to a careful re-examination, the results of which form the substance of his celebrated *Kritik*.

Kant agreed with Hume, against Locke, that generality and necessity could not, as such, be perceived or experienced.

But, he added, they *may* have objective reality for all that. Mathematics have an absolute validity. There is nothing subjective in them. Hence they must have objective reality. And this reality, being abstract, must be sought in the mind itself. In other words, there are general ideas, laws of thought, and absolutely binding necessities which exist *a priori*, always and everywhere, and not, as Hume had maintained, *a posteriori*, that is to say, as uncertain results of a subjective habit.

This was a great step. It was the first sober self-assertion of the intellect without any dogmatism or arrogance. The majesty of thought was proclaimed together with its limitations. Human thought and human consciousness became our highest authority, but only in default of any higher one, and with the express understanding that the limitations of this authority implied the necessity of an unlimited or absolute authority. Kant's philosophy begins with these limitations, and ends with this implied necessity. To determine the natural limits of the human intellect, is the critical task of theoretical reason. To determine the implied necessities (or postulates), is the speculative task of what he called practical reason.

His criticism led him to agree with Locke, that all knowledge comes from experience and observation. But observation and experience, he added, are not knowledge themselves. In them we know only our own perceptions, but not the thing perceived. We can see the image of a thing, that is to say, a phenomenon, and we may know all its attributes and relations ; but the essence of the thing, the thing itself, cannot be known.

As this thing *per se*, or *Ding an sich*, as Kant calls it, has become a current technical term in modern philosophy, we will explain its meaning by a few examples.

When we say we know what gold is, we mean that we can distinguish it from other substances, either at first sight or through some tests. We know, in fact, a good deal *about* gold. We know that it combines with chlorine, that it resists organic acids, that it is extremely malleable, that it is the best conductor of electricity, that it reflects yellow light and transmits green light. Science may add a hundred more to these truths, but it will never enable us to give a definition of gold. The "thing itself" remains a mystery.

And is not matter itself a mystery? The chemist and materialist are equally incapable of telling us what matter is. The chemical formulas give us some fixed numerical proportions, and crystallization shows us some fixed geometrical forms. We can penetrate still further into the recesses of material nature by boiling, fusing, freezing, sublimating, and precipitating. We can look at matter through the microscope, the polariscope, the spectroscope, and the telescope, and may acquire great learning in this way. We may become so familiar with the properties of hydrogen that we recognize its presence on the surface of Sirius, and judge from the shifting of its spectral band whether Sirius is drifting away from us and at what rate. All this is very grand, and science is justly proud of these achievements. But they throw no light whatever on the nature of hydrogen.

Chemists believe in their formulas, because they are founded on the atomistic hypothesis and verified by experiments. But these formulas would be correct, even if the atomistic hypothesis were false. There are some few chemists, even now, in Europe, who do not believe in atoms. The atom, then, this ultimate type of matter, this alpha and omega of modern chemistry, turns out to be a purely speculative thing, never seen by human eye, which may or may not exist, and which, in neither case, would help us to understand the nature of matter or of force.

In like manner the science of electricity, rich and interesting as it is, has so little to do with electricity itself that the truth of its facts and the validity of its laws seem altogether independent of the nature of electricity. This mysterious something may be one, or it may be two. It may be one fluid with two currents, or two fluids, or no fluid at all, but mere motion, or a force or two forces. Let us suppose, for argument's sake, electricity were known to be mere motion, and that we further knew what was the mover and what the moved in such a case: we should still be as far as ever from any real insight into it, motion itself being a metaphysical conception, as utterly beyond the grasp of physical science as force and matter.

Physiology fares no better in its attempts at finding the sources and defining the nature of life. Is there such a thing as a vital force, or is the body its own crucible and nothing but that? And how is it that no "homunculus" can be evolved from phials and retorts? What can there be more humiliating to science than the fact that the question concerning spontaneous generation cannot be decided *a posteriori*, and has not been decided *a priori?* There are learned physiologists who know a great deal about the soul, but cannot tell whether there is a soul, or what it is, if there is one.

Kant, though living before the great modern revival of science, had really succeeded in determining the limitations of all empirical knowledge. Behind the phenomenal world, which is perceptible and thus far knowable, stands the everlasting mystery of the *Ding an sich*. And whatsoever transcends the narrow circle of empiricism becomes *transcendent;* it can no longer be observed, no longer underlie our inductive reasonings. If it beckons to us, if it tempts us to follow it, we must either resist the temptation or become speculative.

The *Ding an sich* being transcendent, we must speculate on it or drop the subject altogether. Kant, wishing to be a critic, did not like to speculate. If physics are a science, he said, metaphysics cannot be a science. Nevertheless he did speculate, but took care to insure his incognito by speculating under the name of Practical Reason.

This "practical reason" was bold enough to *postulate* God and the immortality of the soul, but was too cautious to commit itself to any doctrine concerning the *Ding an sich*. Kant never said that the *Ding an sich* had any objective reality, and he never said that it had none. He was certainly no Idealist in Berkeley's sense. Nor was he a Monist or a Pluralist. He speculated on the *Ding an sich* merely in so far as it would help him to some doctrine on the *origin of evil*, and on the *origin of moral obligation*. Evil he derived from the materiality of the world. This materiality manifests itself to us as plurality. There can be no doubt about the plurality of phenomena, and the individual mind, not being plural, but single, suffers from the contrast. It reacts against plurality in two ways, by thinking and by willing. Thinking is the synthesis of the special and the general, the (general) idea being nothing but what is common to several single things. And as the normal thought deals with the phenomenal plurality by furnishing an ideal *unity*, so the normal will deals with the phenomenal plurality by furnishing an ideal *harmony*. Both the intellectual unity and the moral harmony are strictly ideal. The intellectual unity is a presupposed principle, the moral harmony appears to us as an unrealized *end* or *aim*. It might be objected that the *principium individuationis*, through which unity becomes plurality, is the same through which chaos becomes kosmos, and that we are bound to affirm plurality as belonging to the fitness of things. But Kant speaks of a moral kosmos which is not a ready-made creation. From an ethical point of view, plurality is still chaos which is intended to *become* kosmos through us. It is a postulate of practical reason, a "categoric imperative," that we should recognize this potential harmony and make it our aim. To treat the discords of life as finalities, that is to say, not to presuppose an ideal or potential harmony, is moral erring. To presuppose it and not to will it, is moral evil, is sin.

Such are Kant's ethics, — by far the grandest part of his philosophy. They form a noble structure, whose tops are glittering with heavenly light, but whose lower parts are hidden in clouds. It seems to float in mid-air; and when we look for its foundations, we find nothing but a carefully swept area, neatly mapped out in lines and rubrics. All the rubbish has been cleared away, but we find no building materials either. All is regulative, nothing constructive. And we apprehend that no system of ethics can long subsist without some metaphysical or, in default of such, some dogmatical foundation. Kant's postulates do not furnish such a basis. They are, indeed, metaphysical, (what can be more metaphysical than postulating ?) but Kant does not handle them as such. Metaphysics thrown out by the front door creep in again by the back door, and, being properly disguised, are admitted. But the consequence is, that Kant's God remains outside his philosophy, and seems to have nothing to do with the essence of things (the thing *per se*) or with the intellectual unity or the moral harmony of the world.

It was easy to foretell what kind of work would have to be done by Kant's successors, and how the tasks would have to be divided. If plurality and materiality are the sources of evil, there must be two ways of overcoming the evil. The opposite of individualism (or egoism) is altruism, which bids us love our neighbor; and the opposite of the body is the spirit, which bids us kill the flesh. The former leads to Fichte's *moral kosmos*, the latter to Schopenhauer's *askesis*.

We ask at once, Why should either exclude the other? Both are contained in Christianity, if Christian doctrines may be considered as one homogeneous whole. But the difference between Fichte and Schopenhauer lies principally in their prospective views, their eschatology; and both again differ from Kant, who would not commit himself either to a diagnosis or to a prognostic concerning the world's evil. To Kant the world was actually neither good nor bad, but both *in posse*. Fichte admitted its actual badness, but asserted its final deliverance; while Schopenhauer proclaimed it not only to be bad, but to be hopelessly bad, leaving the *onus probandi* to his opponents.

Fichte acknowledged the limitations of theoretical reason as they had been traced by Kant. He knew nothing beyond the existence of the Ego. The Ego is "unconscious activity," and remains unconscious until it meets with obstacles through contact with which it becomes self-conscious. These obstacles are the Non-Ego, called by the Ego "the outer world." Hence there can be no self-conscious Ego without a Non-Ego, no I without a Thou. That is to say, every Ego or self-conscious being must be a finite being, limited by others. And therefore God can be no conscious being, added Fichte's enemies, who accused him of atheism. Fichte, it is true, did not often use the term "God." Yet his mind was a profoundly religious one. He sought a thinkable, conceivable God, and if he could not find a personal one, he accepted an impersonal substitute. The *attritus* of the Ego and the Non-Ego is the origin of evil. But, Fichte added, we need not abide by this result, the effect of the *attritus* being in reality twofold. It generates, indeed, the evil, but it also produces in us a *longing* which can be either eudæmonistic or ethical. We long for happiness or for perfection, for deliverance from suffering or for deliverance from evil. And thus far, we shall see that Schopenhauer's views coincide with Fichte's. But while Schopenhauer considers this "longing" as a finality, and makes it a plea for his Pessimism, Fichte infers from it its own justification which can only lie in the ideal existence of a "*moral order of the world.*" This moral kosmos, or "moralische Weltordnung," as he calls it, becomes Fichte's substitute for God. It becomes his "kingdom of heaven" or kingdom of the unknown God, and thus the "ethical longing" becomes a practical religion founded on a speculative faith.

This faith in the ultimate realization of the moral kosmos was very intense in Fichte, and imparted to all his doings and sayings a certain tone of heroism.

> "The moral order," he said, "is inconceivable, and altogether opposite to the physical order of things, inasmuch as, in the latter, the result depends on what has happened, in the former on the aim and motive alone. The longing for that order of things cannot be appeased by any earthly good or gratification. It is, therefore, absolutely necessary, nay, the only thing essential in all religion, that we should have faith in that order of things, that we should recognize in it the true source of our duties, and that we should cheerfully submit to all that is implied in it." Fichte scorned eudæmonism, "whose sole aim is pleasure, coarse pleasure or refined pleasure, but always pleasure, always enjoyment in this life and enjoyment in the next life. When people become aware that all these enjoyments depend on a higher power, they call that power God and pray to him. But their God is nothing but Fate personified, an idol, or, at most, a prince of this world."

The weak point of Fichte's philosophy lies in its apparent strength, in the absolute certainty of the final triumph of good over evil. The moral order of things lies, it is true, outside the Ego, but it lies there ready made and ideally real. According to Christianity, this moral order of things has to be produced within us and by us, and the result is doubtful, because the kingdom of God has to "come" from God. Its advent is prayed for, that is to say, it may come or it may not come. Each Ego is in danger. Salvation is possible, but so is perdition. Much depends on individual merit, but much also on "divine grace." And if the eschatological fate of man is so uncertain, how could the ultimate triumph of good over evil be looked forward to, as if it were deducible from human nature? Christianity, therefore, cannot be optimistic, although individual Christians may be so, when they consider themselves as being in possession of the necessary "means of grace." The saint, for instance, suffers cheerfully, the martyr dies joyfully, because their sufferings are trials to them, and, as such, marks of divine favor. The term "trial" implies uncertainty of results; but the saint's resignation and the martyr's death insure the result in this case.

Hence probably the leniency, not to say partiality, with which theologians are disposed to judge the pessimistic Schopenhauer, notwithstanding his atheism; while Fichte, Schelling, and Hegel are called miscreants, and proscribed by them as dangerous on account of their optimism. Theologians rather like the suffusion of *tristitia christiana* which characterizes Schopenhauer's philosophy, and recognize in it, unconsciously perhaps, its redeeming quality; while the doctrines of the Optimists furnish none of those disciplinarian weapons which schools and churches are naturally unwilling to dispense with. According to the Optimists, there is no fear, no danger, no perdition. The struggle with the evil may be hard, but there is no doubt about its final issue. The evil is subordinate to the good, not coessential with it. It lies on the surface of life, like a sprinkling of spice. It appears large and powerful, because we are small and weak, but there is "health in us," for all that. Evil is the ferment of history. It dies through fermentation, and fermentations produce new ferment, but only to work out the designs of the absolute wisdom which rules the world. If Hegel's Absolute were anything else but Intellect and Wisdom, it could not be absolute. If the essentially Bad or moral evil were deducible from it, it could not be Wisdom. The evil that exists in the world can exist only as the handmaid of God's household, not as its mistress. Thus, all that is, whether we call it good or bad, is good. It is good because it is rational, and it is rational because it has its *raison d'être* in the absolute Intellect. If it were not rational it could not exist, simply because there is no conceivable power that would give it existence.

It is obvious that in philosophic systems like these, the distinction between good and evil becomes, in a measure, effaced. Educationally, they are not likely to quicken or to sharpen the sense of right and wrong, or to induce that passionate abhorrence of evil which inspires the moral crusader. The ethics of these systems are purely intellectual. They afford n ground for that religious longing which Fichte felt, or, indee for any longing whatever. For, if all is good, or will com right in the end, all longing is folly.

It is well to remark here, that Schelling and Hegel stan altogether on extra-Kantian ground, and form no links in th chain to which Kant, Fichte, and Schopenhauer belong. W have thought it necessary, however, to explain the real mea ing of philosophic optimism, and to point out the boundlessne of its horizon, before we approach the fathomless abysses (philosophic pessimism. The true successor of Fichte wa Schopenhauer. Yet Schopenhauer was an opponent rather tha a follower of Fichte. And perhaps both may be considered a representing the two possible ways in which Kant's unfinishe structure could alone be completed.

After these introductory remarks, it will be easier for us t give a succinct account of Schopenhauer's philosophy. The onl remaining difficulty of the task lies in the incoherency of th system itself. For, notwithstanding its many beauties and it depth, Schopenhauer's philosophy is as bad as Schopenhauer' world, — in this sense, at least, that it consists of two part which logically exclude each other. And we may wonder ho it was possible for such a man to reach the age of sevent without having been disturbed and distressed by this incom patibility.

His philosophy may be summed up in the following tenets: –

1. The world is phenomenal, not real.

2. Space, time, and causality are categories of the unde standing, and have no objective reality.

3. Both the phenomena and the intellect, the perceived ol ject and the percipient subject, are manifestations ("self-objecti vations") of Something, which is to the world what the *Wi* is to the individual.

4. There being no causality in the world, the primordia "Will" can have no aim. Its self-objectivations must, conse quently, be accidental, and they happen to be bad.

5. There are many degrees or stages of this self-objectiva tion. These stages are the types of things, called ideas an species.

6. One of these stages is the *Intellect*, which is the creature and the servant of the "Will." In it, the Will becomes self-conscious and capable of having aims or *motives*.

7. The Intellect, however, seeing the general badness of the world, condemns the motives of the Will, and the Will itself. The Will (or the flesh) must be subdued, and the motives be supplanted by *quietives*. Rest and annihilation are the highest goods. *Ascetics* and *quietism* are the highest forms of ethical perfection.

All this requires explanation. But we see at once that there are two distinct philosophies in this system. The first two articles contain the fundamental creed of Idealism. Locke and Berkeley said, the world is purely phenomenal, not real. Kant said, the world is certainly phenomenal, but *may* be real. Schopenhauer, therefore, was an ultra-Idealist, like Berkeley. *A fortiori*, he was *as* idealistic as Kant, and ought to have respected Kant's limitations of the Intellect. But having proclaimed the phenomenality of the world, he proclaims, in the same breath, its objective reality, the world being an objectivated Will. As an Idealist, Schopenhauer was not entitled to know anything beyond his own impressions. Yet he talks of the essence of things as if it were knowable and known, and defines the *Ding an sich* as Will; — a strange definition in the mouth of a man who professes to be a hater of metaphysics.

All Idealists, it is true, have been guilty of similar inconsistencies, even Kant and Fichte. But this involuntary trespassing on metaphysical grounds only proves how difficult it is for the human mind to remain long in the vacuum of agnosticism. It likes to start from the safest of all maxims, that we can know nothing but phenomena. But it is useless to start from such a principle, except on an errand of criticism. No philosophy can be founded on strict idealism, the evidence of the senses not being the only evidence; and as circumstantial evidence is admitted in a court of justice, so speculation must be admitted in philosophy. All metaphysical thinking must start from the assumption that the phenomenal world is real.

Schopenhauer did this, too. Nor can we blame him for that. A man may have one philosophy in his youth and another in his old age. Fichte and Schelling have each had two distinct philosophies. But nobody ever succeeded, as Schopenhauer has, in mixing up two incompatible doctrines, not only in one book, but in the six words forming its title. The work entitled *Die Welt als Wille und Vorstellung* may be considered as containing the whole of Schopenhauer's philosophy, of which we are now going to give an abstract. But, to avoid confusion, we will begin with Schopenhauer's Metaphysics, and then pass to his Psychology and Ethics.

1. The greatest difficulty in all Metaphysical thinking is the beginning or starting-point. It is easy to say: In the beginning there was Something; but very difficult to define that Something so that it might become the basis of a rational cosmogony, or that everything existing might appear derivable from it. The primordial Something can be either One or Many. If we admit the pluralistic principle, we have, of course, no further difficulty. But it is difficult to make up one's mind for pluralism. "Many" has no definite meaning, and any definite number would be arbitrary, there being no reason why any one number should be assumed rather than another. Thinking cannot stop or find rest until it comes to the Unit. The Many presuppose their own totality, and whatever there was first, either logically or temporally, must have been One. But here new difficulties arise. The Unit is something perfectly sterile. It is as true to say that nothing can come from One as it is true to say that nothing can come from Nothing. Two might suffice, but one does not. Given some kind of Dualism, the dualism of sex, for instance, or that of spirit and matter, of matter and force, of God and the Devil, of Ormuzd and Ahriman; and the universe can be conceived as being derivable from it. But what can logically be derived from One? The author of Genesis was no philosopher, and could have no difficulty in answering the question. But the author of the Fourth Gospel, being an Alexandrine philosopher, endeavored to write for thinking readers. The Johannean "Logos" was not alone, nor was the Johannean God. The Logos was, indeed, God, and so far there was but One. But the Logos was also πρὸς τὸν θεόν, that is to say, in whatever way we may render the Greek preposition, the Logos was either a part of God or something be-

sides God. And consequently there were Two. Otherwise, the Logos could never have become flesh, or, in fact, anything but what he was before.

Something similar we see in Hegel's Absolute, which is one, but becomes two, — a mysterious process of which we can form an idea only by comparing it with the phenomenon of self-consciousness, which consists in this, that the Ego perceives itself. And when a subject thus becomes its own object, it becomes dual. Although this self-objectivation is a phenomenon with which we are all familiar, it is essentially transcendental, and nobody can be forced to admit what he does not understand. Schelling found it easy to ridicule Hegel's Absolute, because it had to go "beyond itself." Why should anything go "beyond itself," or anybody be "beside himself"? Nothing but *ennui*, he said, could have prompted Hegel's Absolute to do such a thing. Schiller says: —

> "Friendless and lonely was the Lord of heaven,
> He felt a want, hence he created souls." *

If we strip Schelling's sarcasm of its frivolity and Schiller's verse of its pathos, both will be found to express the same idea.

Monistic philosophy would, in fact, be altogether impossible without such a spontaneous self-differentiation of the Absolute. Monotheism calls it Creation, and the Alexandrine philosophers had no difficulty in deducing from it the metaphysics of the Trinity; anything dualistic or bi-une being *eo ipso* triune, since two cannot be conceived without their relation, which is the third. Hegel's dialectics rest entirely on this doctrine, and are essentially trinitarian. But Schopenhauer knew nothing of dialectics. He wanted to be thoroughly monistic, forgetting that all monism implied dualism and trinitarianism; not, of course, the legendary or historical trinitarianism of Christianity, but that of logical conception. He called his Absolute *the Will*, and it was easy enough to work with such a convenient tool. But the terseness of this monosyllable was deceptive. The difficulties were hidden, but not overcome. Nor must it be supposed that it was the result of speculative thinking. Sch penhauer admits that he arrived at this theory through me generalization, or rather through a conclusion *ex analogia.*

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* Freundlos war der grosse Weltenmeister,
Fühlte Mangel, darum schuf er Geister.

> "When we contemplate inorganic nature," he says,* "when w observe the fierce irresistible *impulse* with which the waters rush t wards the lowest level; the persistency with which the magnetic nee turns and returns towards the north pole; the *longing* with which ir flies towards the magnet; the *violence* with which the two poles of electric current seek reunion, and which, like human *desires*, is enhanc by obstacles; when we watch the rapid formation of a crystal a observe the regularity of its shape, so evidently the result of we determined *tendencies* radiating in various directions; when we consi the *selection* with which bodies set free from the trammels of solid seek and avoid, attract and repel each other; or when we feel h any weight whose *tendency* towards the earth is arrested by our bod presses upon it incessantly as though unable to give up its purpose; — it will require no great effort of imagination to recognize, even at t great distance, our own being and nature, — that same agency whic within us, by the light of the Intellect, pursues its aims, while in i organic nature, as in the feeblest of its manifestations, it heaves a moves, but blindly, tumultuously, onesidedly; and which, being alwa essentially and specifically the same (just as the faint rays of twilig and the glare of noontide are both specifically solar light), must he as well as there be qualified as *Will*, — Will being the essence of ever simple thing in the world, the sole ultimate nucleus of every ph nomenon."

2. But of Will nothing can be predicated except *specific res lessness* (space, time, and causality being mere categories the understanding). The Will must be what the *Ding an sic* would be if there were no space, time, or causality. In othe words, the Will must be *aimless*, *non-extended*, *eternal*. W might say, that those who wish to speculate on the origin things and the causes of phenomena, ought not to begin th process by stripping both things and phenomena of all reality and that Kant, though reducing space, time, and causality t mere forms and categories, never intended such a negativ result to form the basis for constructive speculation, his *Kriti* being a mere theoretical ablution of the Intellect, and, as suc

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* Die Welt als Wille und Vorstellung, I. p. 140.

belonging to its nursery, not to its study. Nevertheless, we would abide by Schopenhauer's conclusions, had he not found it necessary to upset them with his own hands.

3. For, he goes on to say, *the Will objectivates itself* (which presupposes space), that there are successive *stages of objectivation* (which presuppose time), and these stages are progressive (which presuppose aim and wisdom), although the Intellect which is to think these thoughts of space, time, and aim was yet unborn when the Will began its evolutions. It may be quite proper to say, in the beginning there was the Will. "Will" seems, in fact, a better term here than either νοῦς or λόγος, because it implies a relation to something (real or ideal) which lies outside the willing subject. But, then, the thing that lies outside the willing subject is nothing but its aim. What else can it be? And can there be an aim willed, or an aiming will, without causality?

If the Will is rational and conscious, then its objectivations which constitute the visible world must all be good, and we obtain the living personal God of Christianity. If it is aimless and unconscious, as Schopenhauer's Primordial Will, then the world must, on the whole, be *bad*. Chance, the dreaded τύχη, becomes the ruler of the world, and philosophy has no other task but to demonstrate that the universe is æsthetically a chaos, intellectually a madhouse, and morally a penitentiary or a bagnio. This is Schopenhauer's Pessimism. Not that there is not much in this world that is good and pleasant. In fact, how could it be otherwise? If chance rules, the law of chances must prevail, and that can only lead to a perfect equivalence of good and evil, there being no reason why the aimless, blind, unconscious, restless Will should objectivate itself more frequently in one sense than in the other. But Schopenhauer loses sight of this. Like Mephistopheles, he seems to think that whatever exists is worth perishing. If the world were a Theophany, he argues, it would be good, and everything in it would be equally excellent and perfect. There is much (no matter how much) that is bad and imperfect. Therefore, it cannot be a Theophany or manifestation of God, but can only be a manifestation of something as bad as itself. He did not say, God is too good to have created the seeds of evil. But his Christian critics seem to give him credit for the sentime as implied in his doctrine. Christian philosophers derive th origin of evil from an apostasy of the Spirit, from himself, co monly called the Fall. The two powers created by this defection struggle against each other, and thus produce the ills and evils of the world, for which the fallen Spirit, and not the Creator, becomes responsible. If Schopenhauer declares that he would rather believe in no God than in a God responsible for this bad world, his very atheism becomes a Theodicea, and we understand why theologians should prefer this atheist to Hegel, who professed to be a Protestant and a Trinitarian.

4. The objectivations of the aimless and unconscious Will might, of course, be anything. They might be bad or good, and must be of all imaginable degrees of imperfection. Nor can we see any reason why better objectivations should not be followed by worse ones, and why there should be anything like graduation or progress in this wild succession. Schopenhauer, however, assumes or implies such a graduation, and we must grant that, at all events, many different grades coexist in the actual world. More than that, — and this is an important and interesting point in Schophenauer's philosophy, — this graduation is not continuous, but punctual (in the metaphysical sense of the word) ; it is not a slope, but a scale, not a flowing stream or a running wheel, but a succession of *steps*. And what are steps, and what is a scale or a ladder, but an alternation of rises and rests, moves and stops, gaps and fixtures ? Each degree of objectivation must, therefore, be considered as a resting-place, an *ἀνάπαυλα* of the Will ; and these objectivations, these halts of the restless Will, are all that is fixed and permanent in the universe. They are the everlasting *types* of nature. They are what Plato's Ideas were, and what we are wont to call *qualities* and *species*. And they alone endure, while everything else is changing, fleeting, transitory. We might compare these *stages of objectivation* with the nodal lines in Chladni's acoustic figures, where all that moves (the vibrating interstices) appears empty and is invisible, while we see only what is at rest, the *ἀνάπαυλα* of the sand, and call it a figure or a type.

This is a deep and fertile thought, — a thought whose depth and fertility are quite independent of the general validity of

Schopenhauer's speculations. We cannot blame him for priding himself on having found a new basis for Plato's Ideology; and even modern science may thank him for having furnished a theory which cannot but be welcome to those who are engaged in reducing the organic world to a minimum number of primordial types or germs, and whose weakest point has hitherto been considered to lie in their inability to account for the absence of intermediate or transitional types.

It has been said that there are no gaps, no sudden breaks of continuity in nature; that every gulf is bridged over by hybrid types, by corals, by sensitive mimosas and the like. It must be admitted that, at first sight, the transitions from one state or stage to another appear very gentle, and are often imperceptible to us. But proverbial philosophy, which deals in this sort of truth, forgets that this gentleness and occasional evanescence of transition are real only with reference to our own powers of perception. A membrane looks smooth only until it is put under the microscope, and a nebula looks like a cloud only until the telescope dissolves it into stars. Science, in fact, has already shown that there is no real, no absolute continuity to be met with in nature; and it behooves metaphysics to show why it is so, and why it cannot be otherwise. Concrete reality belongs, and can belong, to nothing but what is perfectly definite; that is to say, to ideas and to species, to atoms and to individuals. The *fond perdu* which forms the background of this world is the world of abstract possibilities and abstract necessities, the world of formal logic and of mathematics. There even continuity can be found; but in no physical phenomenon, except in motion, which (as we had occasion to remark before) is the most metaphysical of physical phenomena. A harp-string *can* be divided in numberless ways. By passing our finger over it, so as to shorten its vibrating portion continuously, we can imitate the sighing and howling of the wind. But expose the undivided and untouched string to the wind, and it will give forth music, that is to say, *articulate* sound, the articulation being due to a spontaneous subdivision of the string. Thus noise becomes music through nothing but the individualization of the notes, or through the precision of their intervals. And chaos becomes kosmos through nothing but the clearly marked and unalterable differentiation of types; that is to say, of qualities and categories, of definite quantities and atoms, of crystalline forms and organic germs, of species and individuals.

5. The lowest forms under which the Will manifests and stereotypes itself are the general qualities and forces of nature, — solidity, liquidity, elasticity, attraction, and affinity. Then come the various phenomena of inorganic nature, its beauties and its terrors, the crystal and the rainbow, light and sound, the geological, meteoric, and cosmic phenomena. On going one step higher, we find the Will objectivating itself in *organic* forms. But since life as organic existence is impossible without *active* self-preservation and propagation, the Will can no longer afford groping and fretting in the dark, and finds it necessary "to light a torch." This torch is the *Intellect*. It is at first mere instinct, half conscious only, and half blind. It is *the servant of the Will*, and recognizes the Will in the garb of its own organic *body*. It throws, as yet, but a dim light on the path of the ever-restless Will, but that light helps the Will to the various means of self-preservation and propagation. The selection of these means presupposes discrimination and design, neither of which the blind and aimless Will, as such, can have. The Intellect, therefore, must furnish both; and in furnishing perception and design, it becomes the *motive* power of its master, the Will. In other words, the hitherto aimless Will now begins to act from *motives*. So it is throughout the animal kingdom. Between the instinct of the lowest animal and the intellect of man there is only a difference of degree. The Intellect remains everywhere the torch or torch-holder, the servant or the tool of the Will. It sees, by its own light, first its own body, which it knows to be the Will, and then the Non-Ego or the phenomenal world, which it infers (*ex analogia*) to be the same Will. Thus Schopenhauer's world is "Phenomenon and Will," or, as he expresses it, "Perception and Will." As long as it is only Will, it is inorganic and dark; even its light being darkness, because unseen. But when the spark of Intellect is kindled, all is ablaze, and the Intellect sees its own light reflected from something which, if real, must be the objectivation of the Will; if not real, a vision of the percipient Intellect, a phenomenon.

6. Schopenhauer says that "the body is given to the Intellect" (that is to say, exists for the intellect) "in two different ways," — as part of the phenomenal world, and as part of the Ego. In either sense, it is, like every other perceptible thing, an objectivation of the Will. But the body, considered as part of the Non-Ego, is a direct offspring of the great cosmic Will; while the same body, considered as part of the Ego, appears to the Intellect as an *individualized Will*, rather than as part of the general Will.

This "identity of body and Will" has found no favor with Schopenhauer's critics. Nor are the passages relating to this doctrine written with the author's usual precision and clearness. On the other hand, we are at a loss to see why this doctrine — which must stand or fall with the whole structure of Schopenhauer's metaphysics — should have been singled out for attack by his adversaries. If everything, even the human intellect, is a manifestation of the Will, why should not the human body be so? And this body forming, as it does, the rampart between the Ego and the Non-Ego, its identity with the Will must obviously appear to the Ego under two different aspects. Every new fact brought to light by modern physiology affords an *a posteriori* argument in favor of Schopenhauer's purely speculative theory. We are not conscious of the action within our body, although every particle of that body is the scene of the most restless activity, night and day. The will, therefore, which is active within our body, is not our conscious will. Both are parts of the cosmic Will; but to the Intellect they appear as two wills, which — in disease, for instance, and in death — can be at war against each other. The "reflex action" of the motor nerves, and the various phenomena due to what Dr. Carpenter has most properly called "unconscious cerebration," are incontrovertible proofs of the great decentralization prevailing in our system, and of the existence of many subaltern offices scattered throughout the body, of whose cooperation or subordination the Intellect can never be conscious, although it may discover both through observation and inductive reasoning.

It is quite proper, therefore, to say that the whole of our body, even its central office, the brain, can be, and is, both subject and object. As subject, it is, according to Schopenhauer, Will; as object, it is both Will and phenomenon. The Ego, therefore, is the point at which the Real and the Phenomenal or Ideal coincide. Belonging to both these worlds, it can look into both and mix them up theoretically, or lay the rubrics and categories of the one upon the other. On this coincidence Schopenhauer might have founded a very good apology for the hybrid character of his philosophy, which is, so to speak, an idealistic Realism. But he does not seem to have been clear to himself on this point. He commits himself to Idealism on one page, and curses its fetters on the next. "Theoretical Idealism," he says, "can be used only as a sceptical sophism. As serious conviction, it can be met with only in a madhouse. I would compare it to a small frontier stronghold, which is forever impregnable, but whose garrison is, in its turn, forever imprisoned. One may pass by that fortress and leave it behind, without any danger." An excellent simile. But, as one of Schopenhauer's critics* remarks, Schopenhauer was not aware that he himself was a soldier of that garrison. And, we beg leave to add, if we catch him on the open field of Realism we may call him a deserter.

7. The Intellect, standing on this cross-road where the Ideal and the Real meet, performs two different acts.

First, from the fact that its own body is "given" to it in a twofold manner, as Will and as phenomenon, it infers that all other things, though "given" to it only in one manner, namely, as phenomena, exist, like its own body, in two manners, namely, as phenomenon and as something else whose nature is beyond the ken of the Intellect, but which it must *ex analogia*, and from want of any better category, conclude to be similar or equal to the only datum at its disposal, which is the Will objectified as its body. Thus the Intellect becomes speculative, and evolves the various tenets of the philosophy which we are explaining here.

The second operation consists in the transferring of reality in the phenomenal world. The Intellect considers its own inherent qualities as objective outside realities. These qualities are, according to Schopenhauer, the *four categories* of time, space, causality, and the *principium individuationis.* Of course, this is debatable ground; the choice of these categories being grossly empirical, and not justified by any metaphysical link connecting them and excluding others. But they may be called an improvement on Kant's more numerous categories. Time, space, causality, and plurality are in the Intellect, but not objectively in the world; at least, we have no certainty about their objective reality. To make the meaning of this quite clear, let us suppose that the human intellect had only the categories of longitude and latitude. It would then be unable to think of any locality without its two co-ordinates which define and determine it. Each geographical point would be perceptible to the Intellect only as the vertex of a right angle, and yet the two sides of that angle and the angle itself exist only in the Intellect and not on the surface of the earth. If the longitude and latitude of Paris have any reality at all, that reality is certainly different from that of Paris itself. In the same manner, if everything appears to us as extended, and if we measure its extension on the three co-ordinates of space, it does not follow that these co-ordinates, or that space itself, have any objective reality. All we can say of space is, that it is a form or category of our understanding. When certain perceptions follow certain other perceptions in time, we put the link of causality between them; and the more primitive, untaught, and untutored the human mind is, the more readily does it indulge in this operation. Culture tends to lessen the domain of causality. It may, at last, expel it altogether from the outer world; but it can never expel it from the mind, where it exists as an inherent category, as whiteness exists in salt or smoothness in a mirror.

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* Herr Thilo, in his essay, "Über Schopenhauer's ethischen Atheismus," p. [illegible] reprinted from Allihn and Ziller's Zeitschrift für exacte Philosophie, Vol. VII.

These two are the only possible performances or functions of the Intellect. We have either perception or imagination, either Idealism or metaphysics, either empirical science or speculative philosophy. And if Schopenhauer has succeeded in blending these apparently antagonistic elements in his philosophical system, we ought not to find fault with him for that. We only find it difficult not to ask, from his own point of view: *Cui bono?* If the Intellect is nothing but one of the many objectivations of the Will; if this Will is blind and aimless, and only wanted the Intellect to see for it and to cater for it, so as to preserve the organized individual by feeding and the species by propagation,—what is the use, we would ask, of these remarkable and uncalled-for powers of the Intellect; and how can the Intellect, whose only *raison d'être* was to serve the Will, ever succeed in breaking its chains and indulge in pursuits of its own, without the slightest reference to the wants and requirements of its master?

Schopenhauer answers: The servant of the blind man very naturally becomes his *leader*. Moreover, there are various degrees of servitude. The lowest form of intellect was the Instinct, which can have no independent pursuits of its own, but must attend to the interests of feeding and propagation. When the Intellect begins to think consciously, it has ceased to be the slave of the body, although it may remain enslaved to that form of will which we call the heart. It is then that the Intellect begins to furnish the Will with what it never had before, namely, motives, so that the individualized Will begins to have aims, while the cosmic Will continues to be aimless. And the more the individual Will learns to follow the motives suggested by the Intellect, the more complete will be the emancipation of the latter. Complete, however, this emancipation can never become. The greatest height to which the Intellect can practically rise is when it becomes capable of acquiring and seeking useless knowledge, that is to say, knowledge which has no reference to the wants of the body or the will. All abstract thinking and all science come under this head. Without being aimless, it is regardless of consequences, and therefore disinterested and unselfish. In fact, from Schopenhauer's point of view, thought is not only unselfish, but anti-egoistic, because the Intellect, having the *principium individuationis* among its categories, cannot generalize without turning against itself and destroying, *pro tanto*, its own nature. The intellectual difference between man and animal is precisely this, that the animal perceives only single things, while man perceives ideas; or, in other words, the animal perceives, man conceives, things: that is to say, combines them into conceptions or notions. But the Intellect is, as it were, prismatic; if its *principium individuationis* can do nothing but disperse, and must see everything under the form of plurality, how can the Intellect ever become capable of collecting and combining, of thinking and generalizing, without doing violence to itself? Schopenhauer says, very consistently, that ideas, being generalities, lie beyond the reach of the percipient Intellect. If they are perceived (or rather conceived), nevertheless that always entails or presupposes a partial *loss of individuality* in the thinking subject. The more the Intellect perfects itself, the better it will be able to dispense with the tools with which the Will has furnished it, and which we have called categories; that is to say, it will learn to think without reference, or with a minimum of reference, to space, time, causality, and plurality. It will learn to consider neither the When nor the Where, neither the Why nor the Wherefore, but simply the What of the thing, *τὸ τί*, that is, approximately, the essence of things, the *Ding an sich.* This is the height of scientific knowledge and of æsthetic enjoyment. The Intellect reaches it only by tearing itself away from the fetters of its own Will, from its individuality. Through this kind of intellectual suicide, the Intellect becomes a pure subject, face to face and alone with its object.

8. We now come to Schopenhauer's *Ethics.* The world, being the sum of all the self-objectivations of an aimless Will, must be bad. It may be *le meilleur des mondes possibles*, as a French philosopher has called it; but it is, for all that, a "valley of tears," a world of suffering, misery, and death. An aimless and restless Will could not, if it were conscious, be a happy being, because, on becoming conscious, it could become conscious of nothing but its own aimlessness and restlessness. Thus, rest would become its aim. But the conscious (or individualized) Will is the Intellect. Schopenhauer's Ethics, therefore, are summed up in the maxim, that *the highest aim of the Intellect must be rest.*

The Intellect, however, is free. It need not follow that aim. If it follows it, if it seeks rest, it seeks something which is the negation of the (restless) Will. All morality, therefore, consists in a kind of self-annihilation; in the "killing of the flesh," as the Christian Apostle expresses it, in the overcoming of nature, as Hegel expresses it. If, on the other hand, the Intellect either ignores or disowns that aim, it affirms restlessness, that is to say, it affirms the world as it is. And by doing so, it approves and sanctions what is bad, and reasserts its own *principium individuationis.* It then becomes, intellectually, optimistic, and, morally, selfish and unrighteous. Optimism, we see, is a kind of sin with Schopenhauer, and, from his own point of view, he is unquestionably right.

There are two kinds of evil in the world, — the objective evil produced by the mere lawlessness of the Will, and causing the various forms of *suffering,* such as pain, privation, passion, sorrow, death; and the subjective evil produced by the wanton self-identification of the free Intellect with the lawless Will, and causing the various forms of *sin,* such as selfishness, vice, wickedness. Thus Schopenhauer's world is a world of evils and of wrongs, of cruelty and of suffering, of death and of sin. And there are many who agree with Schopenhauer. Pessimism always sounds like common-sense. But those who philosophize on the origin of evil are bound to remember (what we have said before) that even if chance were the ruler of the world, it could not be its highest ruler, the law of chances being still higher than chance itself. The idea of an absolute accidentality not subject to that law cannot be conceived at all, and must be excluded from all philosophy. The law of chances *must* produce perfect symmetry and perfect equivalence of good and evil. We grant that a thing containing not more than fifty per cent of badness may still be called bad; that a life one half of which is passed in the sick-bed may well be called a life of sickness and suffering; but only in popular parlance, not philosophically. This kind of "badness" is like a mental category; it is purely subjective. A philosopher has no right to say, the world is bad because of the essentiality of evil, which would imply the absence or accidentality of good. If good is accidental, evil must be accidental also. To assert the accidentality of both may be an error. But to assert the accidentality of both, and then to talk as if evil were essential (which is more than accidental), and good non-existent (which is less than accidental), is one of those rhetorical tricks which often disgrace the small talk of every-day life, and which may be pardoned by the fireside, but which cannot be tolerated *in cathedra.*

Descartes has said, *Determinatio est negatio*, and that is perfectly correct; all individualizing being essentially exclusive, separative, and, as such, negative. The statue which we admire in the artist's studio has literally pre-existed for thousands of years. It was complete when lying in the heart of the marble rock. Only it was surrounded by other homogeneous matter which the sculptor had to chip away. Now, all evil is negative. It is plausible, therefore, to derive it from "determination" or individualization. Almost all the existing doctrines on the origin of evil are founded on this view. Kant and Fichte sought the origin of evil in nothing else but in the plurality or materiality of the world, which is the result of the individualization or self-determination of some undefined Absolute. But plausible as such doctrines are, they are founded on a fallacy. Evil may be, and is, a negative principle; but "bad" is not synonymous with "negative." It is only through Hegel's dialectics that we have learnt to understand that, if the individual thing is inferior to the species, the species inferior to the genus, the genus to the idea, this inferiority also implies a superiority consisting in a higher degree of concreteness. The *plura* are concrete, the primordial *unum* is abstract. And if the *plura* are bad because determined (or negative) and finite, while the *unum* is infinite, they belong, on the other hand, to a higher degree of evolution, and their badness need not be "badness" in the ordinary sense of the word.

Schopenhauer, in fact, cannot be said to have derived the objective evil (the badness of the world) from any individualization or plurality. His *principium individuationis* he places, not in his Absolute, which is the Will, but in the Intellect (although the Intellect, being individualized Will, would seem to presuppose such a principle in the Will). And by committing this inconsistency, he gains credit for having escaped from a fallacy. All objective evil he tried to deduce from the aimlessness of the Will. But the subjective or moral evil he considered to be the result of the *principium individuationis* of the Intellect, and exhorted the Intellect to turn against this principle, that is to say, turn against itself, morally, in the same way in which we have seen it turn against itself intellectually.

The Intellect can do this, because it is free. Moral freedom, which, in other philosophies, is treated as a subject to be proved, follows, in Schopenhauer's system, as a mere corollary from the assumption of a lawless Will. The Intellect is free, because of the absence and impossibility of any law outside it by which it could be ruled. But here a difficulty arises, for which Schopenhauer has to thank himself. The Intellect, if ruled by no law, is nevertheless determined by its own qualities, the complex of which we commonly call *character*. These qualities being typical objectivations of the Will, it follows that the character of an individual can never change. I am what I am, and can become only what is implied in my character, as the tree can become only what is implied in its seed. An apple-tree cannot bring forth dates or pine-cones. The character of a man is his dæmon, but it is the dæmon chosen by himself, as Schopenhauer says. It is the logical definition of the man, his "What," his essence.

Now we ask, what is the use of freedom in an immutable being? No education can refine it, no experience, no knowledge enrich it. What kind of morality can we expect from such a being?

To answer this question, we should remember (what we have explained before) that as the percipient Intellect can go beyond the elementary perception of single things or rise to the conception of ideas, by unselfing itself intellectually, the *principium individuationis* being at once a power and a trammel to the Intellect, so the Intellect as conscious Will has also the faculty of unselfing itself ethically, that is to say, of turning against its own *character*. Both actions are of a transcendental nature. They are endeavors rather than actions, complete success being impossible in either case. And as there are three stages of intellectual development, namely, instinctive perception, scientific (or empirical) knowledge, and philosophic speculation, so there are also three degrees of ethical development,— *the stage of justice and equity, the stage of benevolence and love, and the stage of quietism.*

These stages have this in common, that in each the natural Will is more or less enlightened by the Intellect on its own misery and badness. This misery, let us remember, consists in the Will's restlessness and incapacity for fatigue. It is the indefatigable Will, and not the easily tiring Intellect, which suffers from *ennui*, in cases of dearth of objects. It is the Will, and not the Intellect, which fights the battle of life and has a horror of death. Consequently the Intellect can become the guide and teacher of the Will. On the lower stages it merely guides it, that is to say, furnishes *motives* for the Will; on the higher stages it teaches it, that is to say, furnishes *quietives* for the Will. *Ennui*, love of life, and horror of death are weaknesses and vices, misnomers for stupidity, selfishness, and cowardice. And "the best thing in human life is its often-lamented shortness."

Thus the dualism in man becomes complete. *The Intellect condemns the Will.* One part of ourself annihilates the other. That is the essence of all ethics, and of Schopenhauer's ethics in particular.

In animals and in savage men the Will asserts itself most emphatically. "Thou shalt want ere I want," and "Thou shalt die ere I die." The love of life is love of self and relative indifference to others. We leave this lowest stage when we become *just*; that is to say, when we recognize the equality of other selves with our own self, and put spontaneously such limits to our will as shall allow room for other similarly self-restricted Wills.

Far higher than justice stand *love* and charity and mercy. They presuppose sympathy, or the power of "suffering with" others, which must precede the power of suffering *for* others. Vicarious suffering is not only useful, in so far as it may lessen the sum total of the world's miseries, but it is also a wholesome exercise or preparation for the third or highest stage of morality, which is that of the *askesis* and of *ascetic sanctity*.

Here self-imposed suffering—though it may have no reference to the sufferings of others, and neither lessen nor increase them—is nevertheless of the highest ethical value and importance, in so far as it kills the flesh, and, by killing the flesh, subdues and "deadens the Will." Solitude and contemplation, frugality and poverty, chastity and even self-inflicted castigations are so many triumphs of the Intellect over the Will, or, one might say, of the Will over itself. The paraphernalia of monastic life may be dispensed with; essential alone is the *spontaneous self-annihilation of the Will.* If the love of self and the love of life are the sources of moral evil, then the love of others and the love of death must constitute moral goodness. This love of death must not express itself in actual suicide, because suicide is only the selfish extinction of one sufferer, while a whole world of sufferers survives: it must remain a mere sentiment, a *longing.* But this longing is different from Fichte's religious longing, induced in the Ego by its rude contact with the Non-Ego. Schopenhauer's ethical longing is not essentially religious: it is the nostalgia, the home-sickness of the soul. And what is the home of the soul? Something like the Buddhist's Nirvâna, says Schopenhauer, "of which we can form no clear conception," and which appears to us as Nothingness. "But," he adds, "if that transcendental world is Nothing in the eyes of those in whom the Will reigns supreme, this wonderfully real world of ours, with all its suns and milky ways, is likewise Nothing in the eyes of those in whom the Will has met with its negation." We need not mind such appearances.

What "motives" were in the lower sphere of morals, the great "quietive" of the soul, its longing for Nirvâna, is in this highest sphere of moral education. We die, whether we will it or not: the great cosmic Will works out our death, and there is no merit in our dying. But since man has to die of his life, he should "live his death"; that is to say, he should consider death to be his great "anapaulè," his last halt or resting-place, even though it may be only one of the many halts or resting-places of the eternal Will which once became his body and which wrought his soul.

These are the outlines of Schopenhauer's system of philosophy. We have found it impossible to trace these outlines without pointing out and dwelling on each flaw, as it came under notice. Many of these flaws, when pointed out, are so undeniably real, that they required no argumentative treatment. Yet it cannot be said that they are too obvious even to be pointed out. They seem to lie on the surface; but they lie on the surface of the skeleton rather than on the body of the system. They lie deeply imbedded in Schopenhauer's writings, and hidden by the beauties of his style. Schopenhauer was a master of style, and not unjustly prided himself on his precision and clearness of expression. He hated the heavy utterances of scholastic learning. He hated still more the terminology of Hegelian dialectics. Moreover, he was a good linguist, who had benefited by the tyrannical discipline of foreign grammars, and learnt to make a sparing use of the liberties allowed by German syntax. No foreigner ought to complain of Schopenhauer's German. No German should read him without resolving in his heart to imitate the simplicity and beauty of his style. But it is this very beauty of form which hides the defects of Schopenhauer's philosophy. Style can be as dangerous in Germany as it has proved to be in France. One may read through some of Schopenhauer's volumes without being aware of the depth and metaphysical nature of their contents. An immense variety of subjects is touched upon in these books. Love and matrimony, music and painting, theatricals and politics, all are discussed in an easy yet earnest manner, and we are struck with the mass of new light that is thus thrown on matters with which we thought ourselves sufficiently familiar, and on which we fancied nothing new could be said by any popular writer. Everything seems plausible and clear. Occasional oddities are either pardoned and passed over, or enjoyed; and the absence of perceptible discords is mistaken for freedom from "false relations."* This is a new kind of obscurity: it is obscurity in the garb of clearness. Heraclitus was nicknamed "The Dark" (ὁ σκοτεινός), and to call Hegel obscure has become a popular amusement of a novel-reading generation. Yet the obscurity of Heraclitus was nothing but the depth of his speculative idea, and that of Hegel may well be called clearness in the garb of obscurity. It must not be supposed that Schopenhauer's style was "flowery" or rank, and that his errors lay hidden like snakes under its flowers and weeds. On the contrary, the beauty of his style consists in nothing more than in its chaste simplicity. We observe an occasional semi-Oriental richness of images, but these images are always remarkably exact and never irrelevant.

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* A musical term.

Schopenhauer had a thoroughly manly nature, and even his Pessimism was free from all whining sentimentality. He was a recluse and a misanthrope, and had many of the foibles of misanthropes: he loved and esteemed his poodle apparently as much as any human friend. He was conceited and obstinate, but free from worldly ambition and indifferent to fame. We have seen that his principal work remained unnoticed and unknown for seventeen years, and that for seventeen years he remained silent, neither writing nor lecturing, — thinking, perhaps, with Descartes, that *bene vixit qui bene latuit.* Yet that book contained all that was dearest and most valuable to him; and while its author remained ignored, as though unworthy even of attack and opposition, the great Hegel stood enthroned in Berlin as mental sovereign of Germany, and surrounded with a blaze of glory such as few philosophers have ever been able to boast of. Schopenhauer disliked Hegel, and never mentions him or his philosophy without indulging in bitter and scornful language. But how much of this bitterness and scorn may have been due to purely intellectual antagonism, and how much to the striking difference of success with which the two philosophers had begun their career, we cannot undertake to decide.

That pessimism and kind-heartedness, far from being incompatible, can be made to enhance and to confirm each other, may be seen from the following passage: —

> "Let us not make," says Schopenhauer, "a cold estimate of every man with whom we come in contact. Let us not take into consideration the badness of his will nor the limitations of his intellect and the perverseness of his ideas, lest the former might beget hatred, the latter contempt. Let us consider nothing but his sufferings, his anxieties, his sorrows, and his pains, and we shall feel at once as though we were related to him; and, instead of hatred and contempt, we shall feel sympathy and pity, which alone is that which the Gospel calls love."

Let us compare this passage with the following lines from Heine's *Reisebilder:* —

> "Alas! one ought in truth to write against no one in this world. Each of us is sick enough in this great lazaretto; and many a polemical writing reminds me of a revolting quarrel, in a little hospital at

> Cracow, of which I chanced to be a witness, and where it was horrible to hear how the patients mockingly reproached each other with their infirmities; how one who was wasted by consumption jeered at another who was bloated by dropsy; how one laughed at another's cancer in the nose, and this one again at his neighbor's lockjaw or squint, until at last the delirious fever-patient sprang out of bed and tore away the coverings from the wounded bodies of his companions, and nothing was to be seen but hideous misery and mutilation."

Neither of these passages could be called sentimental: there is nothing mawkish or bitter or sour in either of them. One is a poet's sketch, the other a philosopher's thought. But both are pessimistic; and, in both, pessimism pleads for kindliness and sympathy.

Schopenhauer, though of a shrinking disposition, cannot, we apprehend, be called a modest man. He was suspiciously fond of quoting Goethe's aphorism, "only wretches are modest"; though he may be right in thinking that it is impossible for a man superior to others not to be aware of his superiority, because "if the top of a tower is three hundred feet above its base, the base must be three hundred feet below the top. Whether you *look up* or *look down*, the distance is the same, and must look the same." *

"The thoughts of great thinkers," he says,† "suffer by being filtered through ordinary brains. Born behind the broad and lofty vaults of palatial foreheads, they lose their strength when sent to live in humbler dwellings, under the low roof of narrow, thick-walled skulls." Now Schopenhauer had a remarkably fine forehead himself; and whether anybody having more than an average forehead should allow himself to write such a passage, may well be questioned.

But these are unimportant traits, — small foibles of an otherwise great man. Nor should we revert once more to his philosophical errors, if his literary influence, which is still great in Germany, and which is not altogether confined to that country, had not been an excellent vehicle both for the truths and the fallacies of his philosophy. The following condensed summary of the latter may be useful to those who wish to give themselves up to the full enjoyment of Schopenhauer's works, without incurring the risk of imbibing false doctrines.

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* Die Welt als Wille und Vorstellung, Band II., p. 484.

† Ibidem, Band I., p. 26.

The first error of Schopenhauer consists in his having undertaken to build on Kant's Ontology what Kant himself either could not or would not build on it, namely, a system of metaphysics. He thus stood committed to both Idealism and metaphysics: that is to say, he had to assert that the world is phenomenal, that we know nothing but our own impressions, never the *Ding an sich;* and having pronounced this *Ding an sich* to be unknowable, he had to propound a speculative doctrine concerning it.

His second error was that he called the essence of all things Will, instead of calling it Reason or Wisdom, νοῦς or λόγος, and that, having proclaimed the Will to be aimless and lawless, he talks of an evidently progressive series of self-objectivations of the Will, so that the laws and forms of thought, the great logical and mathematical necessities which must have existed, either outside of or in the Will, from all eternity, are not at all accounted for.

All the incongruities to be found in Schopenhauer's system may be considered as results of these two fundamental errors. If we could suppose for a moment that Schopenhauer had admitted the Logos by the side of the "aimless Will," and had represented the world as the battle-field of these two contending and mutually complementary principles, all that he ever said about the Will would appear to us as perfectly correct. There is, from this point of view (though not from Schopenhauer's own), an immense deal of striking truth in this doctrine of a blind and restless agency manifesting itself in a world of blindness and restlessness, and therefore of suffering. It is quite undeniable that most sufferings (if not all) are directly or indirectly due to the various forms of self-love and self-assertion. From the untold miseries inflicted by the first Napoleon upon millions of men down to the unseen cruelties described in Tom Hood's "Song of the Shirt," all were the work of ambition (which is self-assertion) and of vanity (which is self-love). And, although this is admitted, as a matter of course, by every man or woman, ambition and vanity continue to be nursed and fostered and stimulated in every imaginable manner. Ever

hool-children are no longer allowed to do their duty without
coming prize-fighters. Prizes, of course, are not *intended* to
ake them vain and mercenary. Nor need that be intended.
r the restless, self-asserting Will is steadily at work within
from the cradle to the grave; and those who pray to God,
y Will be done, can see no reason why they should not con-
ue to do the behests of another Will, the repressing and
adening of which is the very essence of morality.

We should not forget to say a few words here on another
d of suffering, which is known to us under the name of
nui. Since nothing positive, but everything negative, can be
edicated of Schopenhauer's First Principle, his "Will" is
t only aimless, but *empty.* Therefore, the sufferings pro-
ced by the restlessness of that Will must be *either pain or*
nui. Schopenhauer says, humorously, that the former is
presented by our working-days, the latter by our Sundays,
d, he might have added, by the whole life of those whose
ek has seven Sundays. Vacuity craves filling; and *ennui,*
the mental *horror vacui,* becomes, like vanity and ambition, a
al force or motive-power. Like vanity and ambition, it
rks good only in exceptional cases, its usual manifestations
ing love of pleasure, love of sights, love of strong emotions,
e of change. Solitude and monotony of life are dreaded
d abhorred.

But enough. We cannot help admitting that Schopenhauer's
hics are remarkably good, considering the rottenness of their
taphysical foundation. Even his Pessimism has done some
od in Germany, where the optimistic faith in the certainty of
man progress had produced a dangerous degree of political
athy and religious indifference. Schopenhauer's Pessimism
us became a substitute for the pessimism of Christianity.
th agree in saying that the world is bad and wicked, and
at the future is uncertain. And this uncertainty implies the
cessity of an effort, according to Schopenhauer; the neces-
ty of Divine intercession, according to Christianity. Fichte,
o, had said that the world was bad, but the end was *sure*
be good, so that the necessity of moral effort could
ly be asserted, not proved; while Hegel's world was alto-
ther good, because real, the reality of anything essentially

bad being irrational and as such impossible. From an educational point of view, these last two doctrines must appear more dangerous and less useful than Schopenhauer's, though Schopenhauer may be wrong for all that. Pessimistic philosophy is always a *contradictio in adjecto;* and the greatest objection to Schopenhauer's Pessimism will always be that, if it teaches us how to kill the evil, it also kills the killer, and good and evil die the same death.

Schopenhauer could never have founded a *school* on such a faith. He has had many readers and many admirers, but hardly any follower or disciple. Hartmann and Frauenstädt are the only philosophers of note in Germany who call Schopenhauer their master. But neither of them has accepted his doctrine *in toto.* And we may say of this philosophy what Hegel quoted with reference to other philosophies, "The feet of them which shall carry thee out are at the door."

Schopenhauer's greatest merit, which is independent of his success and of the truth of his doctrines, consists in his having remained faithful to speculative philosophy at a time when the reign of philosophy had passed away. He outlived all his rivals, and his mental solitude was even greater in his old age than it had been in his youth. Like a promontory forming the last link of a long chain of lofty mountains, he stands alone in the low though fertile plain of science and of positivism. The horizon may appear flat just now; but other mountains are ahead, and they will heave in sight as time wears on.

Those who believe that Schopenhauer has been the last of the metaphysicians seem to expect too much from that new discipline called Positive Philosophy, which is neither positive nor a philosophy, since it mistakes knowledge for truth and induction for thinking. It is easy to say, as Newton did, "Physicists, beware of metaphysics." The boy who was beaten by the schoolmaster for always talking in hexameters, cried,

> "Desine, præceptor, posthac non carmina fundam."

His very vow belied his penitence, and his promise not to sin was itself a new sin. When scientific men say they will hear no more of metaphysics, and yet aspire to something higher than formal logic and dry learning, or knowledge of names and facts, they deceive themselves and others. The human mind will never give up, though it may hush, its metaphysical cravings.

Speculation may be an idle occupation. But so is art and so is poetry. Yet art and poetry will not be given up as useless, any more than philosophy or religion, though they may all be ignored by those who have no time for them, their whole attention being absorbed either by the frivolities of social life or by the exigencies of some serious pursuit. We admit that the philosopher of the future ought to be a scientific man and, if possible, a mathematician, — a man, at any rate, brought up under the chastening and sobering influences of modern science. But he must be a man who knows how to *handle* results, not only how to find them and to label them. Science is not a building-ground, but a mere brick-yard. Its results are building-stones, not buildings; and even mathematics and formal logic are scaffoldings rather than houses. Who can build without stones or without scaffoldings and plumb-lines? But the bricklayers and the carpenters ought to know what they are before they aspire to be builders and masters, and ought to become conscious that they belong to the very lowest grade in that lodge of Freemasonry whose masters are to build a temple greater than Solomon's. In the mean time, it may be highly desirable that the brick-yard should be left undisturbed by metaphysical intruders. Philosophy can afford to wait until science shows signs of fatigue or distress. Nay, more, science has the strongest claims on our gratitude and admiration. If it has led to nothing better than Agnosticism (which, after all, is an improvement on Atheism and Materialism); if it denies the existence and, *a fortiori*, the immortality of the soul; and if it has reduced morality to a mere system of social dynamics, — we ought, the more readily, to acknowledge our obligation to co-operate with those fearless and sagacious workers who obtained these results, and whose greatest wrong does not lie in these results, but in the presumption of their finality. Many of those who profess these doctrines are men of warm hearts and open minds, men who would be metaphysical enough to die for their country, and to own allegiance to all that, according to their lights, is good an beautiful and true. But it still remains to be seen how lon mankind could abide by those doctrines without impairing thi allegiance, and whether human society would be possible o individual life worth having, if that allegiance could ever, fo any length of time, be forgotten or disowned.

E. GRYZANOVSKI.

ART. III.—THE PROPOSED CHANGES IN THE TELEGRAPHIC SYSTEM.

THE present age has witnessed greater changes in the habits of the people, and the methods of transacting business, than many previous generations. This is mainly due to the accumulation of wealth in the nation, which has probably been greater within the last twenty years than in all its previous history, and to the increase and wide dispersion of its population. There is, undoubtedly, more wealth and comfort, especially among the laboring classes, than at any previous era, but the tendency is to heap up enormous wealth and power in a few hands and in large corporations. While we do not believe that the poor are growing poorer, we do think the rich are growing richer, and that the disparity between the two classes is continually increasing. A few firms in the large cities transact the largest part of the business in each, where formerly a much smaller amount was divided among ten times as many firms Two or three large manufacturing companies employ more hands and capital than did all our factories combined thirty years ago; while a few large railroad and coal-mining companies control the anthracite coal mines, and set the price of one half the coal mined in this country. The same tendency is noticed in England and on the Continent of Europe. Mr Gladstone has said that England has accumulated greater wealth in fifty years than in the previous eighteen hundred and more in the last twenty than in the preceding thirty years. The evil effects of this tendency are less felt abroad, since along with this increase of wealth the influence of the laboring classes has been steadily progressing, and they are now felt as a power, where fifty years ago their opinions were disregarded, and their existence was scarcely taken into consideration in the calculations of politicians. The laborer, in Europe, is gradually becoming of consequence and more independent. The political character of our people is changing. We are becoming more cosmopolitan. State boundaries and State rights are less and less regarded, while the necessities and interests of the people all tend towards forming a nationality.

This accumulation of wealth and dispersion of the population are due in a greater degree to the introduction of steam and the telegraph than to any other causes. By these agencies remote places are brought closer together than were formerly neighboring towns. Europe is nearer New York than was Boston thirty years ago. Transactions with China and Japan formerly required a year for their fulfilment; now the order is given and accepted in a day, and filled in less than three months. Most of the large sales of cotton and wheat are made by telegraph, and millions of money are annually transferred by the same instrumentality, thus multiplying many times the working-power of capital.

The prosperity and growth of city and country, of farmer and manufacturer, of merchant and customer, depend on the means of intercommunication. The market is generally far removed from the producer or factory, and the necessity for increased facility of intercommunication is the one great cause of consolidation in our country. Without it we should be a mere confederacy, and no nation. This necessity has led to the organization of a new class of corporations required by the necessities of the times and the growth of the country, which could not exist in any other nation, or have arisen at any other period of history. Their power is felt in the marts of trade, by the press, and in legislative assemblies, controlling legislation at the Federal and State capitals. This influence arises from the concentration of wealth in these companies, the large number of their employees, and from the great ability of their officers. They grow in power and influence daily. The benefits which the people have received from them have been so great that the power they have insensibly gained has not been generally understood, while in many cases their interests and those of the people have been identical. Yet these corporations have steadily pursued a policy which has best subserved either their own interests or that of their managers, — the interests of the people being secondary and often entirely disregarded. The farmer at the West already complains that the only use he can make of his corn is to burn it for fuel; that no matter what the prices at the seaboard are, the freights only rise and fall in such a way that the result to him is the same. It is in vain to hope that such evils will remedy themselves, or that these corporations will voluntarily surrender any powers they have acquired, or limit their rates by any other rule than the largest amount they can exact. The time will come, and that soon, if this policy is continued, when the people will rise in their might and crush these monopolies. It is necessary that the good men of both political parties, for all are directly or indirectly interested, should take steps to correct the evil in these corporations, that they may be reformed rather than destroyed. Stockholders and officers do not or will not understand their true relations to the public. They seem to think that their franchises were granted by the State solely for their own benefit, and that they can use these trusts in the same way they would a charter for a strictly private corporation, as a cotton or woollen mill. They forget that these are not private, but public corporations which have received certain privileges from the State, in consideration of their promise to perform certain duties to the public in return. Just so far as they regard this accountability, and only so far, do they subserve the interests of the people, and the prime object for which their charters were granted. If this responsibility were continually borne in mind by the officers of these corporations, and acted upon, their relations with the public would be very different from those which now exist. The rights of stockholders in public corporations are secondary, and are not entitled to the same consideration as the rights of the public. But the stockholders control the affairs, and all the officers are chosen to care for those interests exclusively, and see that they do not suffer. The public have no representative, and their rights are often overlooked or disregarded. Now, while it is vain to expect any progress unless capital is protected, it is as necessary that the welfare of the people should also be cared for; the interests of both must be conserved, for if the rights of either are sacrificed, they will ultimately be avenged.

The two great interests which, within the memory of even the young, have assumed such controlling power are the railroad and the telegraph. Railroads were the first to begin to be powerful, and they were fairly under way when the first line of telegraph was constructed. Similar evils have been experienced, and similar benefits conferred by each of these wonderful inventions. Many small corporations were originally organized which constructed lines through their own neighborhood; then, by combinations and consolidations, they extended their powers, until now the whole country is covered by a network of rails and wires, which are controlled by very few men. One instance of the growth of a railroad corporation will illustrate the process.

The line between Albany and Buffalo was originally owned by eight or ten different companies, their stock and indebtedness representing only the actual cost of the road. These companies were by degrees merged into one, the capital stock and bonded debt was very largely increased, and the convenience of the public greatly promoted. The gain to the corporations was immense, by the saving of expense through a single management, and by great stock and bond dividends. If there had been no more stock dividends the evils would have ceased, and the rates for passengers and freight would have been reduced long ago; for the increase of business would have enabled the officers to make a great reduction of rates without any reduction of dividends; but just as rapidly as the business and profits increased, the stock dividends increased, until that company, which was originally represented by fifteen or twenty millions of capital and debt, is now represented by nearly one hundred millions. The fictitious capital, it is said, amounts to $110,145 per mile for the whole length of the main line, upon which large annual dividends are declared, and which is worth its par value in the market. This sum does not represent money actually paid in by the stockholders, but money extorted from the people by unnecessary and exorbitant rates. The same parties who control this line of railroad subsequently acquired possession of the Hudson River Railroad, and other roads running from Buffalo around the Lakes, and stretching across to Chicago; and being still eager for more, they have reached out until they control the Union Pacific Railroad, its roads traversing thousands of miles, and its capital amounting to hundreds of millions. We have not selected this line because its capital is more inflated than others, or because its managers are more censurable, but simply as illustrating the tendency of corporate power. The stockholders and directors are not alone responsible for these evils, for the public has witnessed this steady growth, has participated in the benefits of these consolidations, and has ratified and approved them by silence. It is time that a change in the policy of these corporations should be made, that the rights and interests of the people should be recognized; and if the corporations will not begin it, the legislators must, or the evils will become intolerable.

But vast as the railroad power has become, and oppressively as it is exercised, it is not yet absolutely unchecked; for competing lines connect the East and West, and their managers are constructing the Northern Pacific and the Texas Pacific Roads, stretching out to the Golden Gate and the commerce of the Pacific Ocean. A trial of strength, like the war of the giants, may arise between these rival roads, and lower rates may for a time be obtained, to the great benefit of the people. Two new lines of travel from the Atlantic will soon be opened to the Mississippi River, which may bring some alleviation.

The attention of the public is aroused to the importance of the subject. In Massachusetts, Mr. C. F. Adams, Jr., has given to it the best consideration of one of the most thoughtful minds of a State prolific in great men, and has proposed a novel remedy, which we trust will soon be tried in Massachusetts. In the Senate of the United States, a standing committee, with Mr. Windom, of Minnesota, at its head, — a man of excellent judgment, cool and discriminating in his views, — has been organized to consider this subject in its national relations, and others of our able men in the Senate and House and throughout the land are striving to solve the problem. Organizations have been recently formed in some of the Western States which portend only evil to these corporations, and possibly to capital as well.

The history of the telegraph shows a similar growth, but offers no hope of relief through competition. The first telegraphic line was built at the expense of the government; but the benefits of the experiment, which became a success, were reaped by the projectors. As soon as the line between New York and Washington was constructed, companies were organized in all parts of the country to build lines between the large cities. The actual outlay required for their construction was small; the nominal capital and the expectation of profits were large, and entirely disproportioned to the cost of construction; one half of the capital stock being generally set apart for the owners of the patent through whose instrumentality the lines were built. These lines were constructed of poor materials, in the cheapest manner, the constructors and managers having little knowledge of the principles on which telegraph lines should be built and operated. The rates were low, business small, and expenses high. The correspondence was limited, and the expenses greatly increased by the large number of short lines owned by different corporations, each with its own set of officers, operators, and repair hands, as every message had to be repeated at the end of each line. This led to detentions, inaccuracies, and irresponsibility. As if these evils were not enough, the patentees and owners of the three patents of Morse, House, and Bain constructed competing lines between the large cities. A few of these companies, from peculiarly favorable circumstances, made money; but failure was the inevitable fate of the great majority; for they served neither the interests of stockholders nor of the public. There were ten times as many companies as at present, with scarcely one tenth the number of miles of wire, or one tenth the business. Many of the rates were lower than they have been at any subsequent period; one time only ten cents being charged between Boston and New York.

In the struggle, the weaker lines were gradually swallowed up by the stronger, of which the principal were the Western Union Telegraph Company in the West, and the American

Telegraph Company in the East. Their managers b conscious of the inherent evils of a system formed of gated and competing lines, and saw the necessity of a c of plans and concert of action. The Western Union Co occupied the territory from New York west to the Pacific with the exception of four or five States, where two companies maintained an independent existence. The can Telegraph Company controlled the sea-coast and States. These companies formed an alliance offensive and sive, and seemed to be all powerful, and the era of pro for the stockholders and increased rates for the people b

A short history of the Western Union Company will trate the rise of these corporations. It was incorpora the year 1851; but it paid no dividends until the year the profits being used in extensions, and purchase of lines, and, it is said, in the purchase of the stock of who had become tired of waiting for dividends, either di or by loaning money on the stock purchased. Then t remaining stockholders began to reap the fruits of thei denial in a very rapid increase of the capital.

In 1858 its capital stock was			$ 38
Subsequently, stock was issued for the following purposes:			
1858 – 1866.	For cash at different times		16
	For bonds and fractions of stock dividends		14
	For other objects		18
	For stock dividends		17,81
	For lines purchased		3,32
January 6, 1866.	Total capital		$ 22,01

[In 1866 it swallowed the two other principal lines, — the American Telegraph Company, occupying the Eastern States and the seaboard route South, and the United States Telegraph Company, a new line, competing with both the Western Union and the American Telegraph.]

1866.	Stock for United States Telegraph Company and United States Pacific Telegraph Company		$ 7,21
	Stock for American Telegraph Company	$ 3,833,100	
	For dividends to American Telegraph Company	8,000,000	11,83
1869.	Total capital		$ 41,06

1866 – 1872. Net earnings from July 1, 1866 to July 1, 1872, $ 17,116,694.00

These earnings average 7 per cent a year, divided as follows:—

Dividends	$ 4,856,879.34	
Interest and sinking fund .	1,898,401.98	
Sundries, etc.	10,361,412.91	$ 17,116,694.23

STOCK AND CASH DIVIDENDS FROM 1858 TO 1866.

Date.	Per cent.	Capital on which dividend was paid.	Amount of dividend
April 22, 1858	414.40	$ 385,700.00	$ 1,598,300.00
January 16, 1862	27.20	2,349,500.00	640,446.65
March 15, 1863	100.00	2,979,300.00	2,979,300.00
December 22, 1863	33⅓	5,962,600.00	1,988,100.00
May 11, 1864	100.00	10,066,900.00	10,066,900.00
April, 1866	25.00	21,484,400.00	537,100.00

Total stock dividends in eight years	$ 17,810,146.65
Total cash dividends in eight years	4,157,242.00
Total dividends	$ 21,967,388.00
Annual average	$ 2,745,922.00
On a capital of	$ 385,700.00

Besides all this increase of capital, a bonded debt of $ 5,198,295 was incurred in the purchase of the Russian Extension Telegraph and other lines. In the years 1864 – 65 Mr. Collins, on behalf of himself and other stockholders in the Western Union, began to build an overland line to Europe by Behring Straits and Siberia. The work was begun without adequate knowledge of the difficulties to be encountered, through a barren, mountainous country, inhabited only by a few Indians and wild animals, with an almost polar climate; and the attempt encountered unexpected difficulties. It was well under way when its necessity was superseded by the laying of the Atlantic cable. If it had succeeded, the separate organization would have been continued for the benefit of the corporators; as it was a failure, the loss was thrown upon the people, and the bonds of the Western Union Telegraph Company were issued for $2,500,000,—a sum supposed to be equal to the entire loss. This system was for a time a great financial success; but it served the stockholders much better than the public. Much of the correspondence required to be transmitted over the lines of several companies, necessitating repetitions, inaccuracies, and delays. If the customer complained, it was impossible to determine which company was responsible for any error or delay, and he was left without redress. The elements of a national system were lacking. The companies themselves were sensible of the inherent defects, and efforts were made at different times to effect a union of the large companies, but without success.

In 1864 the United States Telegraph Company was organized, with its head-quarters at New York, for the purpose of establishing a national company, with wires extending north and south, from Maine to Mexico, and from the Atlantic to the Pacific. It was the first company started on a broad basis, and provided for the economical, prompt, and accurate transmission of all telegraphic correspondence. With capital, skill, and time, its success was assessed at the expense of the other companies.

The Western Union and American Telegraph Companies realized the power of this new rival even more fully than did its originators; for they knew its strength and their own weakness.

The new company soon began to pay dividends, supposed to be from earnings, but in reality from capital. Both of the old companies made overtures to it: the Western Union was successful in its negotiations, by offering many times its cost or value.

It was merged into that company in 1866, each stockholder receiving two shares of stock in that company for every three of the other, which required an issue of $7,000,000 of stock for the purchase "of a few thousand miles of almost worthless lines."

This forced the American Telegraph Company into a consolidation with the Western Union, which immediately followed the other. Its capital stock of $4,000,000 was exchanged for $12,000,000 of stock of the Western Union to equalize the nominal value of the two. The Western Union system thereby became national.

It is often said that, as competing lines can be constructed t a small expense, the public have a remedy for any evils be- nging to the present system in their own power.

This suggestion has even been made by officers and stock- olders of the Western Union Telegraph Company. The re- ilts of past experience show the entire fallacy of such a medy. Telegraph correspondence, like the mail service, is ith all sections of the Union, and no company can be suc- ssful that is not national.

In this respect it is entirely unlike our railroad service, here a small local road may pay large profits, and serve its mediate constituency better than a large company could.

The recent history of opposition companies confirms these ews.

At the close of the war this company required the aid of the vernment in recovering and establishing its lines upon the ilroads of the South. It therefore procured the passage of n act of Congress in 1866, which gave it the right to con- ruct, operate, and maintain lines of telegraph upon all the ost roads of the country. Foreseeing that the time might me when it would desire to sell its lines to the government, provision was inserted in the bill that Congress should have e right to take them at any time after 1871 at an appraised aluation. The Western Union Telegraph Company was now r the first time without a competitor, and was apparently cure. But its lines were poorly constructed and equipped, nd but little business could be transacted upon them in com- arison with the same length of European lines. According to report made by Mr. Cromwell Varley, an experienced elec- ician, who came over from England in 1868 to examine their nes, the insulation was scarcely *one tenth* as good as that of e English lines, and "it is the favorable climate which per- its such insulation to pay." In conclusion, he said: "Your sulation is horrible in wet weather, and getting worse. Take hand those lines which earn most of your money,—the Bos- n and Washington wires, for example,—reinsulate *one half* r *one third* of these wires, and I expect you will find them ufficient for your present traffic."

At this time the corporation was in a critical condition; its ines were poor, and its capital out of all proportion to its property or business. With the same capital it now has, it then had less than one half its present length of wire or business. Its rates were nearly twice as high, the average being $1.40. It could easily have been fatally crippled by rival lines, if parties who had the means and the skill, and who were willing to look for their profit to the investment, had constructed them.

New rivals entered into the field; but they all inherited the errors of the Western Union, and were started on wrong principles, with capitals even larger in proportion to the length of their lines or their business. In one of these companies each mile of wire was represented by $800 of capital, while the cost was probably not much over $100. The principal of these were the Franklin, Atlantic and Pacific, the Pacific and Atlantic, the Bankers and Brokers', and one or two other smaller associations. Competition was renewed, rates were reduced, dividends fell off, and, according to the assertions of the Western Union Telegraph Company, "These competing lines have not made money enough to keep their lines in repair." They have never paid any dividends, and their stock, it is said, has no market value. Combination naturally followed. When a business, from requiring large capital or other circumstances, falls into the hands of a few persons, they are sure, in the end, to avoid competition by combining. Hence, it is said with truth that "where combination is possible, there competition is impossible." Accordingly, the President of one of these companies has recently testified that he had agreed with the Western Union Telegraph Company to raise the rates, thus putting an end to competition. This result may have been brought about in consequence of large stockholders in the Western Union Telegraph Company having become interested in the other lines. The business, therefore, is now controlled by the Western Union Company, which performs nine tenths of it. The management of this company has not been retained in the hands of its original stockholders, nor is it controlled by those who have invested in telegraph stock solely with a view to profit by the development of its business, but by the same parties that operate the New York Central line of railroads, — a combination which wields the most extensive railroad and telegraph systems in the world. This statement does not represent the full extent of its power. A great change has taken place in the Western Union Company's affairs since its office was removed to New York, and Messrs. Orton and Palmer became President and Treasurer, and the engrossing policy then begun has been pushed with all their sagacity and energy. No dividends have been paid recently, nor will any be for some time to come. The profits have been applied to the repair, extension, reconstruction of the old, and to the construction of new lines, and in the purchase of the stock of the Company. The stock so purchased has not been cancelled, but has been transferred to the company, to be sold or divided at some future time. Concessions have been made in the rates, the business has doubled, the lines have been improved, the great disproportion between the value of the property, its business, and its capital has been to a considerable extent removed. Competition has ceased and can never be renewed. The results appear in the market value of the property, which in January, 1869, was $33 per share, and in January, 1873, $85, and is cheaper at $85 than it was in 1869 at $33 per share.

What is the effect of this monopoly, with its inflated capital, upon the rates and growth of business? According to the Company's published statements, its average rates in 1868 were $1.10; in 1869, 97 cents; in 1870, 83 cents; in 1871, $73\frac{4}{10}$ cents; in 1872, 72 cents. The Company has earned upon its nominal capital during this time an average of six and a half per cent a year. If the capital represented the cost of the property, the rates might have been reduced one third and still have yielded six and a half per cent upon it. The public pay, therefore, nearly $3,000,000 a year on fictitious capital. The growth of the business is indicated by the number of messages transmitted during each of these years, namely:—

	Rate.	Messages		Rate.	Messages.
In 1868,	$1.10	5,733,394	In 1871,	.73$\frac{4}{10}$	9,115,010
1869,	.97	6,548,465	1872,	.72	10,271,935
1870,	.83	7,859,028			

being an increase of eighty per cent.

This increase, large as it seems, is entirely disproportionate to the growth of either the railroad or the mercantile business of the country, and is less than that in other countries.

Belgium affords a striking contrast to America in the policy pursued and in the results obtained. In the year 1862, 105,278 messages were transmitted, at one and a half francs. In 1863 the rates were reduced to one franc, and the business increased to 188,825, or eighty per cent. In 1865 the number was 332,718. On the 1st of December the rates were reduced to half a franc, and the next year 692,536 messages were transmitted. The business has continued to increase in nearly the same ratio, and in 1871, 1,560,673 messages were transmitted, giving an increase of five hundred per cent in six years. The number of messages is one fifteenth of the number of letters. This diminution of rates was followed by a reduction of the net profits, but in no year have the expenses exceeded the receipts, and the net profits are again increasing. The net earnings have paid the entire debt incurred in the construction and extension of the lines. The reduction of rates was not only followed by an increase of business, but by extending the use of the telegraph to all classes of people. At the high tariff seventy-seven per cent was on commercial matters, while now thirty-eight per cent only is of that class, although the number has greatly increased; thirteen per cent was then on social matters, now fifty-eight per cent.

The Republic of Switzerland soon followed the example of Belgium. On the 1st of January, 1868, the rates were reduced one half, and the correspondence, which had been increasing at the rate of only four per cent a year, nearly doubled at once. The number of messages transmitted in 1867 was 397,289; in 1868, 798,186; and in 1871, 1,700,000. If as many telegrams were sent in this country as in Belgium in proportion to the correspondence, there would be about forty millions a year. If as many in proportion to the population as are transmitted in Switzerland, there would be nearly thirty millions.

It is said that those examples do not apply to our country, and that it does not follow that because they use the telegraph extensively, we should do so if our rates were greatly reduced. The theory of the Western Union Telegraph Company is that the business depends more upon the despatch obtained than upon the rates; that the question of cost does not enter into the consideration of its customers so much as that of time;

and that greater promptness in transmission is demanded, rather than lower rates. There is no doubt that this is true under the present circumstances. The rates are exorbitant and prohibitory of many kinds of business, ten per cent only being on social matters. The experiment of low rates has never been tried in this country, excepting between two or three large cities in the East, and the results there have never been published. With a reduction of rates the character of the business would be changed, the number of customers and messages would be greatly increased, and similar results be obtained here as abroad. European statistics show that with high rates the telegraph was used even less than with us, and solely for commercial purposes, and that it is the reduced rates that have increased the business. The effect would be much greater here, because the value of the telegraph depends upon the time gained in the transmission of correspondence. If in Belgium, where there is only a gain of an hour's time, the growth of business by the reduction has been fifteen hundred per cent in ten years, the effect would be greater in this country, where the gain in time is from one hour to ten days.

While it is true as a general rule that the growth of the telegraphic correspondence is so great that the net receipts will be diminished by any reduction of tariff, yet it is also true that any considerable reduction of rates will greatly increase the business without a corresponding increase of expenditures. European and American statistics both establish this proposition. Striking and instructive results are afforded by a comparison of the statistics of North Germany, Belgium, Holland, and Denmark for the years 1865 and 1870. In North Germany the increase in the number of messages was 259 per cent, increase of expenditures only 83 per cent; the expenses increasing only one third as rapidly as the business. In Belgium the increase of messages was 252 per cent; of expenditures, 61 per cent; the expenses increasing one fourth as rapidly as the business. Increase of messages in Holland, 142 per cent; of expenditures, 62 per cent, or one half as great as the business. In Denmark the increase of messages was 149 per cent; of expenditures, 38 per cent, or only one fourth as great. The same is true of the Electric and International Telegraph Company, the largest English company, which in four years, from 1862 to 1866, increased its business nearly 105 per cent, while its working expenses were only increased 40 per cent, and the net product 80 per cent. The statistics of the Western Union show the same results, the business having increased in five years 80 per cent, with only 27 per cent increase of the expenses, and a reduction of only one per cent in the net profits. It is therefore shown that a reduction of fifty per cent in the rates will be followed by an immediate increase in the business of about one hundred per cent, with an increased expenditure of about one third, and that this immense development of the business and of benefit to the public may be gained without much, if any, reduction of the net profits. But corporations will not make reductions in rates simply for the public benefit. It is more difficult, and requires greater executive ability, to manage a large business with small profits on each item than to conduct a small business with large profits. It is in this that the difference between a corporate and a postal service consists. The first looks only to realizing the largest profits, and regulates its facilities and extends its business with that view only, the public service being but the accessory. The other seeks the greatest extension of the business which can be made without loss, the public service being the chief object.

It is thus shown that the use of the telegraph has increased rapidly abroad and slowly with us, when the very reverse ought to be true. Scarcely any new lines are constructed there, while here new territory is peopled, and an average of over twenty thousand miles of wire are added yearly to our lines. Our habits, business, social condition, national energy, and extended territory, all favor a much more rapid increase in the use of the telegraph here than abroad. The contrary result can only be due to the fact that the business is managed in the interests of monopoly. Where the telegraph is managed by the government, the interests of the people are better regarded; the rates are the lowest, the facilities the greatest, and this is obtained without the imposition of any tax, those who use the telegraph paying for it. These effects are due to the different systems in operation, — in one the corporate, in the other the postal.

The different theories of these systems have been very fully set forth in a recent work, published by Sir James Anderson, entitled "Statistics of the Telegraph." In this he enunciates several propositions, which are the key to the whole matter. First, that the normal growth of the telegraph is so rapid that the net earnings, at a high rate, will be greater than at any reduced rate. Second, that a reduction of tariff for interior traffic has in nearly every instance produced an enormous increase of traffic, with only a slight decrease of the net product, and that this deficit tends to diminish. Third, that the only reason that can possibly induce the directors of corporate companies to reduce their tariff is the single one of expediency. The first two propositions he proves by the Belgian and Atlantic cable statistics. The Belgian statistics show that if there had been no reduction of rates during a period of nineteen years, there would have been a much larger net product, while the business would have shown a very small increase. Only 264,504 telegrams would have been transmitted in 1869, instead of 1,534,413, the number actually exchanged, while the net product for the same year would have been 502,000 francs against 23,856 francs. The history of the Atlantic Telegraph shows that if the average rate, £ 12.84, for the first eleven months had been continued, the net result would have been an annual dividend at the present time of twenty-seven per cent a year instead of ten or twelve per cent, while the number of messages sent would have been 114 a day against 860. The third rule has been faithfully carried out in the American system; high, irregular, and arbitrary rates preventing the use of the telegraph unless in exceptional cases, where the cost is of slight consequence. Though the rates have been reduced about thirty-three per cent within the last five years, no general reduction has been made. It has been limited to particular cases, where the rates were so high as to be almost prohibitory.

Mr. Wells, in a pamphlet lately published by the Western Union Telegraph Company entitled "The Relation of the Government to the Telegraph," says that the reduction caused by the introduction of a system of charges according to the air-line distances between country places instead of by the route actually traversed by the wires resulted in a loss equal to fifteen per cent, while the introduction of half-rate messages by night was followed by another reduction in the net receipts equal to sixteen per cent in the rates, and thus he accounts for the entire reduction. In Europe, every nation has adopted either uniform rates, or uniform rates for equal distances.

The appropriation of the lines of telegraph by the general government has been recently the subject of discussion both in England and America. The same system prevailed in each,—high rates, limited facilities, and small growth. The contrast between the governmental and corporate systems in England and on the Continent was felt by the English, and led to the purchase of all the lines of telegraph by the government in 1870. The business had increased under corporate management from six millions in 1866 to eight millions in 1868, or fifteen per cent a year. Though the British government reduced the rates but one third, the increase was one hundred per cent in three years, with a great increase in the number of offices, against an increase of eighty per cent in five years in our own country. These results have necessarily attracted much attention in our own country. The Western Union Telegraph Company have been forced to consider them, and have recently employed the ablest statistician of our own country, the Hon. David A. Wells, to examine the European and their own statistics, to deduce from them his own conclusions. So short a time, however, was allowed to Mr. Wells, that his examination was limited, and his research does not carry the conviction due to his eminent talent and fairness of mind.

The arguments advanced in favor of a change of our system of telegraph are drawn from the high, arbitrary, and discriminating rates charged to the public, the limited facilities furnished, and the little use made of the telegraph, and the great power it confers upon a monopoly. During the past winter, and while the discussion in Congress was pending, a great reduction of rates was announced, which was intended as a concession to the public demand for low rates. The reduction, although apparently very great, gave no relief to the people, for it was not a general reduction, but a simple lowering of all rates above $2.50 to that sum, and of some rates of $2.50 to

$ 2.00. The people cannot afford to pay either of these sums for ordinary business or social correspondence. A reduction, to be of public value, must be so great as to induce people to use the telegraph regularly where they now use it occasionally, and to increase its use by those who now use it in their regular business.

The Western Union Telegraph Company divide the country into three districts,— the Eastern, Central and Western, and Southern. In the East the rates are thirty cents for over twenty-five miles, and not over fifty miles; in the Central and Western division, forty-five cents for the same distance; and in the Southern division, fifty cents. That these rates are high is evident when we compare them with the Belgian or English rates, which are respectively ten cents and twenty-five cents for the same distances; double the number of words being transmitted in England, and one half as many more in Belgium, thus increasing the disparity; and that they are as high as between our principal cities where the distance is from five to eight times as great. These rates are so high as to prohibit all business between country places excepting that which the parties are compelled to send, and which they would send at even greater rates.

There is one exception to the high charges of the Western Union Telegraph Company. They boast that the rates to the press are lower than in any other part of the world; "that they deliver to the press of the United States annually, for less than a million of dollars in currency, more telegraphic matter than is transmitted by all the other telegraphs in the world"; and Mr. Orton has said that "he would undertake to produce an American journal, printed one thousand miles from the Atlantic coast, that should contain more news from all parts of the world in a single issue than could be gleaned from the 'London Times' in a week," and that "the press are perfectly satisfied with the situation." A statement of the arrangement by which the press obtains these low rates will show that in one point of view the press pays very dearly for them. The Associated Press of New York, in connection with the Western Union Telegraph Company, collect the news from Europe, and from all parts of our own country, forward it to some convenient centre for collation, preparation, and distribution, and then transmit it to the various press associations in all portions o the country. These associations are therefore dependent upon this double-headed monopoly formed by the Telegraph Company and the Associated Press of New York. No new associates are admitted into any press association without the assent o every other member. The news is delivered under an expressed or implied engagement that the receivers shall neither encourage nor support any other telegraph corporation; that they will protect its interests, and will not criticise the telegraphic news Thus an offensive and defensive alliance is organized for the protection of the telegraph company on the one hand, and o the Associated Press on the other, by which, in effect, tha press is subsidized. The Western Union Telegraph Company can afford to furnish news at low rates, to have the support o the press in its extortions upon the whole people; and the associations pay for this by defending the power which sustain their exclusive privilege of furnishing news to the public The arrangement which Mr. Orton boasts of is therefor simply a combination to victimize the public; for the sake o which the Associated Press sacrifices its character and independence.

From time to time members of the press have advocated postal telegraph, or have criticised the telegraphic reports, bu they have quickly felt the power of the telegraph company and their fate has proved a sufficient warning to others not t offend in like manner. The most noted are the "Herald" an "Alta California," both of San Francisco, and the "Petersbur Index," of Virginia. The California papers, the one in 1868, an the other in 1872–73, offended by advocating a reform in th telegraph service. They were promptly punished, — the "Herald" by having the rates raised from six to fifteen cents pe word, and the "Alta" by the entire loss of the despatches. Th telegraph company assign as the reason for cutting off the "Alta" that they had great difficulty in collecting their bills. Th Petersburg paper criticised the reports, and for a time lost it despatches. The telegraph company can raise or reduce th rates; and though they make contracts with the various associations, they are generally terminable at thirty days' notic

Its control over the press is therefore absolute. It has the power of life and death, for the telegraphic news is the vital breath of the daily newspaper. Such a power cannot exist without its exerting a pernicious influence on public affairs, and every observant public man has long perceived the demoralizing influence of this powerful, but subtle agency.

Let us consider the power of the telegraph as an educator of the people. The current history of the times is first given to the country through the telegraph. "Let me write the songs of the people, and I care not who makes the laws," is an old saying. Here it would be truer, if less poetical, to say that the man who rules the Associated Press is master of the situation; for, if he has the ability to wield it, he has an instrument for shaping the opinions of the millions, which, by the constancy, universality, and rapidity of its action, defies competition. The events which take place in all business, political, and religious centres, together with the actions of public men and their imputed motives, are all presented simultaneously to the public, from ocean to ocean, through this instrumentality. The agents who collect the news respond to the central authority at New York, and are subject to removal at its pleasure. Here is a power greater than any ever wielded by the French Directory; because, in an era when public opinion is omnipotent, it can give, withhold, or color the information which shapes that opinion at its pleasure. It may impart an irresistible power to the caprice of an individual, and the reputation of the ablest and purest public man may be fatally tainted in every town and village on the continent by a midnight despatch. It is incompatible with public safety that such an exclusive power to speak to the whole public at the same moment upon every subject, and thus to create public opinion, should be under the absolute control of a corporation. The obstacles which the telegraph and these associations can throw in the way of any new journal amount to virtual prohibition against publishing a first-class, independent newspaper in the land, and thus the existing combination has possession of the exclusive privilege of making the first and, with many, the last impression of every event.

The abuses of this system are growing, and will increase rapidly until the government interferes to perform the duties for which it was constituted, — to protect the people; until the rates for the press are fixed by law, equal rights and privileges secured to all, with rates so low that all can use the telegraph. Not until then will a free and independent press be assured to the country.

These suggestions show that the telegraph may become a controlling power in politics. It can ally itself — and probably will at no distant day — with kindred monopolies, and aspire to supreme power. Giving the word of command to the supporters of these vast interests, and having exclusive and simultaneous access to the public mind, such combinations may at critical moments seize the power of the government.

The telegraph should also be considered as a means of speculation. The entire commercial news of the European markets is daily gathered in England, transmitted to New York and received about noon by the Commercial Bureau of the Western Union Telegraph Company. They tolerate no competition in this branch of their business, and allow no other party to receive and forward the commercial news to associations of merchants. As soon as it is received, all business upon the wires leading to the chief cities of the country is stopped until the news has been forwarded to its agents in each of these cities. Its agents, therefore, have the first information of all commercial as well as political news; and every one knows how sensitive are the markets. Is a report circulated that the Secretary of the Treasury proposes to issue more currency, stocks advance; that the Pacific Mail is to be investigated by a Congressional committee, they fall. It has been said by members of Congress that a careful examination will show that wherever the reporters favor a particular member or measure, his speeches and the arguments for such measure are carefully reported, to the neglect of their opponents The control of the telegraph gives to its manager the ability to speculate, without the possibility of loss, in any article in every market of the world.

As it is idle to expose the evils of any system unless a remedy is suggested, let us inquire whether there be any in this matter.

The Constitution gives Congress the power to establish post-offices and post-roads. The object of this grant is to enable it to transmit correspondence. The manifest intention of the Constitution was to confer full power over the whole business of transmitting correspondence. Congress, having undertaken to exercise that power, established the offices and routes, and adopted each improvement in the means of transmission that was discovered, and ought now to adopt this latest and greatest improvement, the electric telegraph. It has not only exercised this power in all other forms, but has always asserted its *exclusive* right to carry on the business, and has punished severely all who carried outside of the mails letters upon which the postage had not been paid. The whole subject is essentially national, and the fact that it is expressly intrusted by the Constitution to the general government shows that it is not private, but public business. That the framers of the Constitution correctly understood its character is obvious on a slight consideration. If the transmission of the mails had been left to private parties, it would no doubt have been carried on between the larger cities and in populous districts; but unless the government had kept up lines of communication between the extremities of the territory, and even between country towns, there would have been no general postal system. In the populous regions the rates of postage would have been prohibitory of extensive correspondence, because the business would have fallen into the hands of the monopolists, as has been the case with the telegraph.

There are but two questions: First, whether it is for the interests of the people that the transmission of correspondence should be intrusted to the government rather than to private monopolists. Our forefathers in their wisdom decided in the affirmative, and gave Congress the conduct of the postal system, in order to secure responsibility and good service, knowing that, though there would be abuses, there would be less than if the people were left wholly to the only alternative, an irresponsible monopoly. Congress, in the exercise of the power conferred upon it, has already created post-offices and post-roads in all parts of the country, and the mails are carried to every village in our land. The free interchange of correspondence is a modern necessity, and has kept pace with the advance of civilization and freedom. Exclusion from it is separation from the world, and, if it results from the imposition of unreasonable rates, is a denial of a right. This right of correspondence belongs to the people, and extends to all the modes of communication now in use or which may ever come into use.

Second, shall the telegraph, the greatest improvement for the rapid transmission of correspondence, be open to the people, or remain the peculiar property of the wealthy?

The telegraph is now recognized as an important vehicle for the transmission of correspondence, and, under legitimate control, will soon absorb a considerable portion of it. The government cannot, therefore, abdicate its control over this agency with any greater propriety than it can surrender that over correspondence by railroad or steamboat. All classes and every individual in the community are directly interested in the telegraph; it is of public concern, and not a mere private matter. It is a national business, which recognizes neither State boundaries nor sectional limits. No State legislation can properly regulate it; Congress alone possesses adequate power.

It is only an instrument for the transmission of correspondence which before its invention was sent by mail. The same organization which now furnishes the offices, keeps the accounts, receives and delivers all other letters, will suffice, with some increase in its force and efficiency, for the performance of the same business for the telegraphic correspondence. We are now maintaining two, and, in many places, three or four organizations for the same purpose, where one could perform the whole, and afford ampler facilities for telegraphic correspondence than are now provided, at an annual saving of between two and three millions of dollars. No one proposes to surrender the transmission of the entire correspondence to corporate monopoly, or doubts what would be the results if these corporations controlled the charges for postage.

Two methods have been proposed for exercising this power and uniting the telegraph to the postal service. One, by the present Postmaster-General, which simply copies the European system, and provides for the reception and delivery by the

Post-Office Department of telegrams transmitted over lines constructed, owned, and operated by the Department at rates fixed by Congress. The other, proposed by a former Postmaster-General (Randall), provides that telegrams shall be received and distributed through the post-office as by the other system, and transmitted like other postal matter by parties owning and operating the lines, and contracting to perform the service at rates fixed by Congress. The two plans were submitted to standing committees of the Senate and House of Representatives of the last Congress, and after a full discussion, at which all parties interested were represented, the Postmaster-General advocating the government plan, Mr. Hubbard the postal system, Mr. Orton and other representatives of telegraph companies opposing any change, the committees considered the subject independently of each other, and were unanimous in their rejection of the plan of the Postmaster-General, and the adoption of the postal system advocated by Mr. Hubbard. These committees, in carefully prepared reports, submitted the measure to Congress. Owing to the want of time during the last session, the bills reported to the Senate and House were not considered; but it is understood that they will be acted upon at an early day in the next Congress. As the same advantages will be obtained by the public under either plan, and as the one will cost many millions of dollars, and increase the power and patronage of the Executive, no one will be surprised at the conclusions at which the committees arrived. The reduction in rates will be greater than that made in England, where an expenditure of forty millions of dollars was incurred in the purchase of the lines by the government; and the rates will be as low as they could be under a purely governmental system conducted without loss. By such an arrangement the government will take the same charge over the telegraphic branch of the postal service which it now exercises over communications transmitted by rail or post-coach, without investing in telegraphic lines any more than it does in railroads and post-coaches, and will as effectually guard the citizen against extortionate rates and unjust discriminations.

Various considerations are urged against the transfer of the telegraph to the Post-Office Department. Some think that the country which is the least governed is the best, and that no business should be intrusted to the government which private enterprise can transact, because every government performs its work at a greater expense than corporations, and our government is more extravagant than any other. There is no doubt of the general truth of the first part of this proposition, and it can be carried further, for all corporate work costs more than private. Yet this fact does not prevent us from continually chartering new corporations, nor from intrusting certain duties to the government. Our education, banking, and postal systems are conducted or regulated directly by the State and general governments. It does not solve the question to say that government work is more expensive than corporate, but we must consider *for whose benefit* is the greatest economy. Do the people share in the benefit, or does it enure wholly to the stockholders of the corporation? All experience shows that the same self-interest which impels a corporation to have its work done as cheaply as possible also leads it to get all it can out of the people. The statistics prove that telegraphic management in private hands *does not* result in either economy or efficiency of service to the public.

All the telegraphs on the Continent of Europe are owned and operated by the government. In England, before 1870, they were managed by private corporations, as they still are in America. The first cost of government works is less, the rates are much lower, the facilities offered greater, and they are planned on a comprehensive system, with reference to the wants of the whole country, and not alone to those places where it will pay best. The rates in the principal countries of Europe are less than one half those in England under the corporate system, or in America. The post-office is the only governmental work in this country in which the people are directly interested; the service it renders, in proportion to the facilities furnished, the work performed, and the distance of transmission, is cheaper than that of any other country in the world, and it will at least compare favorably with the express business. The cost on each letter is a little less than two cents in Great Britain, a little over three in the United States, while the number of letters in proportion to the offices is much less, and the average distance of transmission more than three times as great.

But some who admit the evils of the present system and the advantages of a postal system think that by the transfer of the telegraph to the postal service the power of the Executive would be so greatly increased as to outweigh all the benefits that would result from it. All political influence arises either from the patronage it would give the Executive, the ability to send free telegrams, the control of the press, or the power of *espionnage* over the correspondence. As these powers are now held by a private corporation, the question is reduced to a consideration of the expediency of leaving them to private and irresponsible parties, of intrusting them to the Post-Office Department, or of limiting these powers and dividing them between private parties and the Post-Office Department, so as to secure the advantages of both systems. These objections apply with much greater force to the plan of the Postmaster-General, which provides for governmental ownership, operation, and control of the business, than to the postal system. Under it there will be no patronage, excepting that arising from the addition of a few clerks and carriers, less in number than the annual increase from the growth of business. The free transmission of messages by passes, so constantly given to members of Congress and others where they will "do the most good," is not only prohibited, but both the post-office and the company are directly interested to have every telegram fully paid, and neither can send a free despatch without the connivance of the other. There can be no control over the press, for all will have the *right* to send and receive despatches at fixed rates, and so low that every paper can obtain "specials" cheaper than they now get the Associated Press news.

Espionnage, or the power of the postmasters, dependants upon the Executive, to examine private telegraphic correspondence, is severely punished by law, and is to a great degree thwarted by the fact that the operators are employed and paid by the company, and without their connivance the power would be of little use; and, moreover, the number of telegrams will be so greatly increased by the low rates and additional facilities as to remove the possibility of any considerable tampering with their contents.

The postal system recognizes both the necessity of regulating the business and the importance of securing that economy which private interests impart. It restrains the powers, corrects abuses, reduces rates, increases facilities, confers no new powers on the Post-Office Department, but simply extends its operations by the employment of a new agency for the transmission of correspondence. It provides for the purchase of all existing lines at an appraised valuation, their incorporation into a company which at its own expense will furnish and operate the lines necessary for transmitting telegraphic correspondence between the postal telegraph offices, depending upon private capital, skill, and economy for success. The company will derive its entire profits from the receipts of the business which are the only funds from which it can draw its income It will have a direct pecuniary interest to see that the post office performs its share of the work promptly and efficiently The present is substantially a railroad and not a postal system and at many offices the railroad business has preference over all other. This places it on a distinct footing. The railroad telegraphic business will be managed by those corporation without interference by the government, and the telegraphic correspondence by the Post-Office Department.

The telegraph is shorn of its power over private correspondence and mercantile news by subjecting it to fixed and impartial rules and uniform rates, so low that all can freely use it The power is divided between the department and corporation so that neither can use it to the injury of the public, while the distinct interests of the two oppose combination.

The Postmaster-General has the same means for enforcin the prompt and accurate transmission of this as of all other correspondence. No monopoly is conferred, and any company can transmit telegrams if they can do so more satisfactorily to the public. The rates are fixed at twenty-five cents between offices not over 250 miles apart, fifty cents between 250 and 500 miles, seventy-five cents between 500 and 1,500 miles, and one dollar and a half for all greater distances. Letters are generally written after the close of business hours and sent by the night mail. To provide for this correspondence the rates for night telegrams are fixed at twenty-five cents for distances under 1,500 miles, and seventy-five cents for greater distances. These rates will be prepaid by telegraphic stamps sold at the post-offices. The department will retain five cents for its service, and pay the rest to the company as full compensation for furnishing and operating the lines. The length of the telegraphic letter is increased to twenty-five words, including address and signature. Every post-office near a telegraph line is made a postal telegraph office, while others are established wherever they now are or may be required by the wants of business. This will make a reduction in rates of fifty per cent, and an increase in the length of the message of eighty per cent, and in the number of offices of over one hundred per cent. These great reductions and increased facilities will bring the telegraph within the reach of all, and, when in full operation, will give us the best telegraph system in the world.

The postal system recognizes the rights of property in the owners of the existing lines, proceeding upon the ground that to make any new plan successful it must avail itself of the services and co-operation of the present able managers; that this can only be accomplished by paying liberally for the property it purchases of them, and that it will be much more advantageous to the public to secure this harmonious co-operation, even by paying a large price for its property, than to establish a system at a very much smaller price, but in competition with the Western Union Telegraph Company.

It is not contended that the postal system is free from defects, but that it removes many of the grave evils of the present system, without the introduction of new ones, and that the balance of benefits greatly preponderates in favor of the cheap rates, increased facilities, limited and divided powers of the postal system.

GARDINER G. HUBBARD.

ART. IV. — 1. *Report of the Commissioners appointed to investigate the Cause and Management of the Great Fire in Boston.* Boston City Documents, 1873.

2. *Records of the late London Fire-Engine Establishment.* By CAPTAIN EYRE M. SHAW. London. 1870.
3. *Reports of the Chief Officer of the Metropolitan Fire Brigade on the State of the Brigade and the Fires in London during the Years* 1870, 1871, 1872.
4. *Fire Surveys, or a Summary of the Principles to be observed in estimating the Risk of Buildings.* By E. M. SHAW, Chief Officer of the London Fire Brigade. American Edition. 1872.
5. *Annual Report of the Fire Marshal of the City of New York for the Year ending April* 4, 1872.
6. *Annual Report of the Board of Fire Commissioners of the Philadelphia Fire Department*, 1872.
7. *Report of the Philadelphia Fire Insurance Patrol for the Year* 1872.
8. *Report of the Board of Police in the Fire Department to the Common Council of the City of Chicago, for the Year ending March* 31, 1872.
9. *Addresses of the President of the National Board of Fire Underwriters at the Sixth and Seventh Annual Meetings in* 1872 *and* 1873.

THE improvements which have been made during the past forty years in the apparatus for extinguishing fires are quite as wonderful as in any department of the mechanical arts. The old-fashioned manual engines have been sent into the country to keep company with the stage-coaches; the bell-ringer has been superseded by the electrician; and the painted leather buckets which adorned the halls of careful householders have given place to chemical fire-extinguishers. But with all these advantages in the application of steam and electricity and chemical forces, the newspaper reporters still rejoice in extensive "conflagrations"; and when all our ingenious contrivances fail to arrest the progress of the flames, we fall back upon the primitive method used more than two hundred years ago by the terrified Londoners.

Our modern inventions appear to have left us where we were in the beginning. The new forces brought into operation for putting out fires are neutralized by the increased facilities for the spread of fire. The large cities in this country have grown up without any restrictions in regard to the construction of buildings; and it is within the last half-dozen years only that municipal governments have considered that they had any concern in the matter. Since the insurance offices have taken everything under their protection, from a granite warehouse to a lady's wardrobe, and paid fire departments have been organized, the sense of personal responsibility in the protection of property from fire no longer exists. This is seen in the reckless manner of constructing buildings, and in the general neglect of all precautionary measures.

There is another reason why we have failed to secure the full benefit of the modern improvements in fire apparatus. The introduction of steam and electricity necessitated a complete change in the organization of these departments. In place of the numerous bodies of volunteers who hauled the old machines to the scene of the fire, and manned the brakes, a small but well-trained and well-disciplined organization was required. In many cities the volunteer companies looked upon the introduction of steam fire-engines with the same feeling that the English hand-loom weavers looked upon the introduction of steam machinery to facilitate their labors. As the American engine company was a political power, it was necessary to give it a large share in the new organization, and, as a consequence, the traditions of the old system govern the new. There is much display, noise, and enthusiasm, but very little training or discipline.

Captain Shaw, the chief officer of the Metropolitan Fire Brigade of London, after inspecting the fire departments of the principal cities in the United States, in 1868, said that the telegraph makers and steam fire-engine builders had done much for the departments, but that the officials had done very little for themselves, either by instructing the makers of their machinery as to the real requirements of the service, or by exercising and practising themselves in the use of such appliances as they had. The cause of this he found in the fact that, —

"the chief officers, or, as they are called, chief engineers, of most of the American fire departments, and the principal assistant engineers, are elected, not promoted, and that political influence is commonly paramount in the elections. In some towns, the chief and his assistants were appointed by the mayor, and this was probably the better mode of the two; but in whichever way they obtained their places, the appointments were generally only temporary, and varied in duration from one to about three years, according to local arrangements. It was hardly to be believed that in the midst of a practical nation like the Americans, the chief of an important department, requiring a considerable amount of skill and special training, should be obliged every year to enter into competition with his own subordinates and others, and either to stand continued fresh elections or to lose his place. Such was, however, the case, and the effect of the system is, of course, fatal to the advancement of the professional work of the department. . . . The Americans had now powerful and weighty machinery and appliances, drawn about by large numbers of horses, and worked by enormous bodies of men; but it could hardly be supposed that the citie would long continue to supply funds for the payment of heavy expense rendered necessary chiefly by the want of skill and practise on the par of those concerned. It was a very singular and unaccountable fact, tha the Americans, in their admiration for steam fire-engines, had forgotten or ignored the use of hand-worked engines, and had abolished them altogether, thus absolutely depriving themselves of the means o instantly extinguishing fires at their own doors, leaving themselves i this particular point far behind the most backward nations of Europe He had asked in every city why this had been done, but he had no received as much as one reply giving the slightest reason; on the contrary, the answer generally was, that hand-engines were of no use, — a statement quite without meaning in the face of the fact that some of the principal cities in the world are still entirely protected by them." *

In a communication written since the fire in Boston, Captai Shaw says: —

"When I was last in America, it struck me very forcibly that although most of the chiefs were intelligent and zealous in their work not one that I met made even a pretension to the kind of professiona knowledge which I consider so essential. Indeed, one went so far a to say that the only way to learn the business of a fireman was to go t fires, — a statement about as monstrous and as contrary to reason as if h

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* London Herald, September 28, 1869.

had said that the only way to become a surgeon would be to commence cutting off limbs, without any knowledge of anatomy or of the implements required.

"There is no such short cut to proficiency in any profession, and the day will come when your fellow-countrymen will be obliged to open their eyes to the fact, that if a man learns the business of a fireman *only* by attending fires, he must of necessity learn it badly, and that even what he does pick up, and may seem to know, he will know imperfectly, and be incapable of imparting to others.

"I consider the business of a fireman a regular profession, requiring previous study and training, as other professions do; and I am convinced that where study and training are omitted, and men are pitchforked into the practical work without preparation, the fire department will never be found capable of dealing satisfactorily with great emergencies."

The efficiency or inefficiency of the fire departments in this country, as compared with those in other countries, cannot be measured by the percentage of property destroyed. It is necessary to take into account not only the difference in the methods of constructing buildings, but the regulations which are in force in regard to the manufacture, storage, and use of all combustible materials. It is claimed by those who control our departments, that the comparatively small losses sustained in London, Paris, and Berlin are owing wholly to the fire-proof character of the buildings in those cities, and the rigid enforcement of certain police regulations. The lack of training on the part of members of the departments is more than compensated, in their opinion, by *esprit de corps*, and the general superiority of the American fire apparatus.

Given a body of volunteer militia, armed with needle-guns, but without any special training as to the manner of using them, and put it in opposition to a thoroughly drilled and disciplined body of regulars, armed with smooth bores; and, upon the theory of the American fire engineers, the regulars would go down before the superior dash and enthusiasm of the volunteers. Undoubtedly, enthusiasm will sometimes win by its own force, but in the long run training makes the best record. The whole theory is, however, based upon a false notion that the more a man knows about his business, the less interest he takes in it.

These general statements of the views entertained by the officers of our departments as to the qualifications necessary for the duties of a fireman, ought, perhaps, to be somewhat modified since the great fires in Chicago and Boston. In a number of the large cities, the departments have been placed under the control of a Board of Commissioners, appointed for a term of years, and an effort has been made to get rid of political influences. This is the first step, and the most important one, towards establishing the organizations upon a sound basis. Boston, notwithstanding the lesson it has received, still adheres to the old system. The evidence accompanying the recent report of the Commission appointed to investigate the cause and management of the fire on the 9th of November last furnishes the material for a description of this system, and its method of operation, which may not be without interest.

A chief engineer and fourteen assistant engineers are elected annually, by a concurrent vote of the two branches of the City Council.[*] All other members of the department are appointed by the Mayor, with the approval of the Aldermen. But the City Council has entire control of the number of persons to be appointed, designates their qualifications, term of service, and duties, and provides and locates all the fire apparatus. The engineers have some authority by statute law to take measures for the prevention of fires, but it is limited.[†]

During a fire, the chief and assistant engineers have almost unlimited power; but they may be placed in such a condition by the previous action of the City Council in locating the fire apparatus, and in establishing the regulations under which their subordinates act, that they cannot exercise their power with any efficiency. For instance, under the authority to fix the qualifications of members, the City Council provides that every foreman and assistant foreman of a company shall be nominated annually, and whenever a vacancy occurs, by the members of the company. It often happens that the man who has held the position for years, and who is best qualified for it, is thrown out by a bare majority of disaffected members, and one who is totally inexperienced put in his place. The regulations give this man the power to direct the placing of the engine at fires, and the charge and control of the hose and hose-men.

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[*] The city government of Boston consists of a Mayor, elected annually; twelve Aldermen, elected annually on a general ticket; and four Councilmen, elected annually by each of the sixteen wards. The Board of Aldermen and the Common Council constitute the body known as the City Council. They act separately upon most matters, in the same manner as the Senate and House of Representatives.

[†] The prohibition of smoking in the streets of Boston, which has been the subject of much good-natured ridicule, on the supposition that it was a sumptuary regulation, occurs in the statute defining the duties of the engineers in regard to the prevention of fires.

An engine company consists of a driver, a fireman, and an engineer, who are permanently employed, and eight hose-men (including the foreman), who do duty only in case of fire, and who are engaged at other times in various private employments. A hose company consists of a driver, who is permanently employed, and eight hose-men, including a foreman. The hose companies act independently of the engine companies. When a fire is below the third story of a building, they connect the hose with a hydrant; when it is above, they connect the hose with an engine. A hook and ladder company consists of a driver, permanently employed, a foreman, an assistant foreman, four axe-men, four rake-men, and from six to thirteen ladder-men. The crew of the steam fire-boat, attached to the department, consists of a captain, an engineer, and five assistants, all permanently employed. The duties of these men are sufficiently indicated by their titles. The whole force, including the engineers, consists of four hundred and fifty-nine men. The salary of the chief engineer is $3,000 per annum; of the assistant engineers, who are on duty only a portion of the time, $500 per annum; of the engine-men, $3.50 per diem; of the firemen, $3.25 per diem; of the drivers, $3 per diem; of the foremen, $325 per annum; of the hose-men, $300 per annum.

With the exception of the engineers, the men continue in service during good behavior. Although the foremen and assistant foremen may be reduced to the ranks, by the action of the companies at their annual nominations, they cannot be deprived of membership. The annual election of engineers by the City Council has a very pernicious influence upon the discipline of the department, not so much on account of the changes which are made, — as the old members are generall re-elected, — but on account of the state of subserviency whi results from their dependence upon a political body. Assista engineers are put in nomination against their chief; foreme of engine companies enter into political competition with t assistant engineers; and the members of companies intrig for the nomination of foreman. It would hardly be expect that such an organization could enjoy a high state of discipli The surprising part of it is, that there should be any discipl at all. Neither the officers nor the men have any traini except that which they receive while attending fires.

The apparatus of the department in service at the time the fire in November consisted of twenty-one steam fi engines, weighing from 6,800 to 10,500 pounds each (incl ing about 450 feet of hose), and capable of throwing from 3 to 550 gallons of water a minute to a horizontal distance 320 feet, and a vertical distance of 220 feet; ten hose ca riages, carrying an average of 900 feet of hose; seven hool and ladder carriages, carrying from fifteen to twenty ladders and a number of axes, rakes, hooks, forks, and buckets; three fire-extinguisher wagons, each carrying ten portable extinguishers of the Babcock patent, and several hundred feet of two inch and one and one half inch hose; and an insurance wagon carrying rubber coverings to protect property exposed to damage by water. The Insurance Brigade, as it is called, consists of nine men, who belong to the regular department, but who are paid by the insurance companies. Since the fire, the department has been enlarged by the addition of a steam fire-boat, for the protection of the water front, capable of throwing eight powerful streams, several steam-engines, and a Babcock chemical engine. The last-named machine is a recent invention of great value in the early stages of a fire. It weighs about 3,200 pounds, and may be drawn by one or two horses. It contains two chambers, one of which can be charged while the other is being discharged; so that a constant stream can be kept up through a one-inch pipe to a vertical distance of seventy-five feet. As these machines are easily handled, and always ready for use, they are admirably adapted to take the place of the manual engines which Captain Shaw considers so essential to the apparatus for a city.

The control of the telegraphic fire-alarm system is in the hands of a department entirely independent of the fire engineers.* A great number of boxes are placed in different sections of the city, generally on the corners of streets; and the alarms are given by pulling a slide inside these boxes, which communicates the number to the central office at the City Hall. From that point wires connect with the bells on churches and other public buildings, and also with gongs in the fire stations, and the private houses of the engineers. In some of the engine-houses the electric current which gives the alarm unhitches the horses from their stalls at the same time, and those which have been trained instantly take their places at the pole, without any word of command. Every effort is made to have the apparatus on the ground and in working order in the shortest possible time; and in the performance of this duty (owing in a great measure to the rivalry existing between the different companies) remarkable energy is shown. In many cases the engines leave their stations in twenty or thirty seconds after the alarm is struck.† An ingenious arrangement has been recently introduced, by which the water in the boilers of the engines is kept constantly heated by connection with the heating apparatus in the station-houses; and the engines are ready for service as soon as they arrive on the ground. The city is divided into eight fire districts, and only that portion of the apparatus situated in the district from which that alarm is given responds to the first signal.

The fire of the 9th of November originated in the basement of a warehouse about seventy-two feet high, including a Mansard roof, and covering an area of fifty by one hundred feet. The front wall was of granite, the rear and partition walls were of brick.

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* It would hardly be possible to devise a more ingenious scheme for dividing responsibility, and insuring the largest possible outlay, than that adopted by the City Council for the government of the fire department. There is a joint committee of the City Council on the department, a board of engineers, another joint committee on fire-alarms, a superintendent of fire-alarms, another joint committee to purchase lands and erect and repair station-houses, and another board which locates and controls the hydrants and reservoirs.

† In New York the engines are frequently run out with the horses attached in twelve seconds after the alarm is sounded.

The building stood at the corner of two streets, — one of t streets being forty-five feet in width, and the other forty fe On the opposite sides of these streets there were buildings about the same height, crowned by wooden Mansard roofs. is stated in Captain Shaw's "Fire Surveys" that

> "The distance apart of buildings fronting each other should be i proportion to their height; in fact, as a simple rule, it might be laid down that they should be separated by a distance equal to half their combined height. Thus, for instance, a building of sixty feet and a building of thirty feet high might safely occupy sides of a street forty-five feet wide.* . . . .
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> "With a well-organized and properly equipped fire brigade it is found that sixty feet is the greatest height at which a building can be quickly protected, and that the cube of 60, or 216,000 cubic feet, is the largest cubical capacity which can be protected with reasonable hope of success after a fire has once come to a head."

In this case, the combined height of the buildings was 144 feet, on streets 40 and 45 feet in width; and the cubical capacity of the building in which the fire originated was over 400,000 feet.

There was a fatal delay in giving the alarm. It being Saturday, the wholesale stores closed at an earlier hour than on other days. At six o'clock this section of the city was almost deserted. At that hour all the police officers in the city are withdrawn from the streets, to attend the roll-call at their stations, and as soon as that is ended the first night watch goes on duty. Two Charlestown officers testify to seeing the fire from a point at least a mile and a half distant at about ten minutes past seven o'clock. They establish the time by a railroad clock. A number of other persons saw it between fifteen and twenty minutes past. The police officer on whose beat the fire occurred was chasing some boys who were making a disturbance in the street, when he came in view of the fire, which was then "streaming from the top of the building."

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* The Metropolis Local Management Acts provide (§ 85, cap. cii. 25 and 26 Vict.) that no building, except a church or chapel, shall be erected on the side of any new street of a less width than fifty feet, which shall exceed in height the distance from the external wall or front of the building to the opposite side of the street, without the consent in writing of the Metropolitan Board of Works.

There was an alarm-box right at his hand, and he stopped and gave the alarm on the instant. The operator on duty at the entral office started his instruments immediately, and looked t the clock in order to make his record. It was twenty-four minutes past seven.

One steam-engine and one hose-carriage started for the fire ust before the alarm sounded, having received notice by the ry of fire in the streets. The engineer of the steamer testi-es that he had a stream on the fire in four minutes after the ells struck. The engineer of the second engine testifies that e played two streams inside of ten minutes from the time the larm was given. A member of the first hose company which rrived testifies that his company got a stream on the fire bout five minutes after the alarm, and about six minutes before he first engine played. An assistant engineer living near by heard somebody hallooing fire in the street," and looking at is clock saw that it was eleven minutes past seven. He went mmediately to the fire, and arrived there in advance of any re apparatus.

The epidemic which prevailed among the horses at that time hroughout New England caused some delay in getting the ngines and ladder companies to the spot; but the delay on his account was not so serious as many have supposed. The mporary loss of horse-power had been made good in a great measure by the addition of five hundred men to the force, who were paid one dollar each for assistance in dragging the ap-paratus to a fire, and twenty-five cents an hour for the time they served. The nearest engines responded about as quickly after the alarm as they would if the horses had been fit for duty. Those at a distance were delayed from five to forty minutes. There is a vast amount of conflicting testimony upon this point of the delay in giving the alarm, and the delay after the alarm was given, in getting the fire apparatus on the spot and into operation. It would be safe to say that there was a delay of at least fifteen minutes after the fire was visible at a considerable distance, before the telegraphic alarm was given.*

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* The Chicago fire was discovered by a policeman when it was so small that he thought it best not to sound an alarm. He tried to extinguish it himself, but failed,

At half past six a single bucket of water would probably hav been sufficient; an hour later, and the whole force that coul be mustered was insufficient. As police officers, all of who are supplied with keys to the boxes, are expected to give th alarms, although duplicate keys are deposited in shops o houses near by, those who first saw the fire took no steps t ascertain whether an alarm had been given, but stood enjoyin the sight, and speculating upon the failure of the engines t arrive.

The fire appears to have started near the bottom of th opening for the elevator, which extended from basement t attic. As soon as the flames entered this opening, they wer carried up with tremendous force, and burst through the roo in an incredibly short time. The building contained abou $250,000 worth of dry goods, some of the articles being highl combustible. The foreman of the first hose company whic arrived testifies that the rapidity of the fire was beyond any thing he had ever seen during an experience of twelve year in the department. An engineer of one of the engines says: —

> "When I arrived there [six or seven minutes after the alarm], th whole rear of the building was on fire, and the upper stories both fron and rear. The flames were coming right out fifteen feet. They would almost go across the street. I stayed there as long as I could. The chief told me to stay there until it burned the gauge-cocks off, and I stayed as long as I could stand it."

The chief says: —

> "In my experience in the Boston fire department, covering twenty-five years, I never saw such a sight as was presented that night; within eight minutes from the time the alarm sounded, I was on the ground, and the building was literally consumed. With all the fires we have had in that district and other sections of the city, I never sa

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and then notified the nearest steam-engine company. The engine was placed i position at a hydrant about five hundred feet from the fire, and it required all th hose on the reel to reach it. In the mean time, sparks from the building originall on fire had caught in some tenement-houses, too distant for this first engine t reach with its streams. An interval of twenty minutes had elapsed since the fir was discovered when the watchman at the City Hall, half a mile distant, saw the light, and sounded an alarm. This called three additional engines, the chief, and one assistant engineer. The second and third alarms were then sounded, which called out the full working force of the department.

the time, no matter how inflammable the building was, whether it contained oils or any other inflammable material, but what we could enter the building itself; but here was a case where you could not get near the building. The material of the building being granite, its explosive properties were shown very conclusively by the shower of granite that was flying in every direction, from pieces weighing one pound to ten and twenty."

It was a bright moonlight night. The velocity of the wind was from five to nine miles an hour. But as the fire went on, the induced currents of air in the vicinity were very strong, so that those who stood in the streets near by supposed there was a great wind-storm prevailing.

According to the returns of the engineers, there were seven steam-engines on the ground within fifteen minutes from the time the alarm was sounded, and the whole department reported for duty within an hour and thirty minutes. These returns are probably quite incorrect, as in most cases the time given was only guessed at, and the officers were all interested in making as favorable an exhibit as possible. The distribution of fire apparatus throughout the city had been made by the City Council, without any regard to the great bulk of property to be protected. In the old portion of the city, where the assessed value of property amounted to $514,697,450, there were only six engines; while an outlying ward, having an assessed value of $31,395,300, had an equal number. In the whole district covered by the fire, containing more perishable property than any other portion of the city of equal extent, there was not a single engine or hose-carriage.

The officers who first arrived attempted to fight the fire in the building where it originated, but finding that impracticable, they gave their attention principally to the buildings adjoining on the southerly and easterly sides. It would appear from the evidence that the engineers as they arrived took charge of the first engine or hose company that they came across, and went to work. It was just here that the professional training which Captain Shaw insists upon, would have enabled these men to comprehend the emergency, and take measures to meet it. They entered upon the contest without any plan, without any concert of action even. Instead of stopping to consider calmly where an effective opposition could be made, they took up p tions from which they were driven by the heat of the fire fore they could get to work. It was an extraordinary fire, the engineers proceeded to fight it in the ordinary way. the course of the next hour the fire made such progress tha is doubtful whether any man or any body of men could h checked it with the means then at hand.

Aid was furnished very promptly from other cities towns, and in five hours after the alarm was given there w fifty steam-engines on the ground, besides several hand- gines and a large number of hose-carriages. Here was a v powerful force, but for various reasons it could not be utili for a considerable time. The hose and hydrant couplings w of different sizes, and there was a good deal of delay in m ing connections. The supply of water was insufficient. district over which the fire was then spreading was covere few years ago by dwelling-houses from two to four stories height. These small houses had given place to great w houses from sixty to ninety feet in height, filled, in most ca with combustible materials. The small six-inch water-pi originally laid in the streets had not been changed. They become reduced by rust to about five inches in diameter. engines which drafted from hydrants near the large mains duced the head so that those drafting near the fire could play a stream above the second or third stories of the bu ings. No change had been made in the old-fashioned hydra They were placed in the sidewalks and supplied by a sm branch from the street pipes, so that, unless there was a he pressure upon the street pipes, these hydrants were alm useless.* There were a number of reservoirs located un the principal streets, having a capacity of about four hund hogsheads each; but as they were fed by the same pipes wh supplied the hydrants, they were soon exhausted, or reduced low that they could not be made available.

The appalling rush of the flames, the falling walls, and short supply of water, all tended to discourage the firemen. Dr. Henry J. Bigelow, in his testimony before the Commission (page 142), says: —

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* This pattern is known as the "Boston Hydrant." It has only one outlet, a capacity of three inches. The "Lowry Hydrant" is set on the mains in street, and has four outlets, with a capacity of nine inches. These hydrants now being placed on all the large mains in the business portion of the city, s to enable the engines to be massed in case of a large fire.

"The obvious thing through the night was the utter inadequacy of the means to the end. The thing that I noticed, wherever I saw the engines and the fire, was that the streams failed to reach the upper story. They broke into spray and seemed wholly ineffective at that height. The second thing was that, I should say, half the time the streams seemed to be playing at the intervals between the windows, as if aimed at nothing; or, to give an illustration of it, as if the firemen were tired and had got to do something, and it did not seem to be of much use to play into a window; and so, as the water was coming, they just let it go. Occasionally there were spasmodic efforts to wet the opposite houses, but apparently they were soon abandoned. Occasionally hose was taken to the top of a store to play on the next store, but for some reason that was also soon abandoned. I suppose the firemen were roasted out. The radiated heat was immense at a distance, — I mean against the wind. Another thing noticeable through the night was the number of unemployed engines to be seen standing at corners. Another thing I noticed was the way the fire caught from one building to another. A strong party-wall seemed to be the best protection. But when one store was pretty well burned, the upright roof of the next one (for they were most all of them French roofs) began to smoke at a dozen or so small points between the slates. After a while, a few little tongues of fire appeared here and there.

"Before the slates gave way, these little tongues of fire were coming out between the slates; here fire, there smoke, and tongues of flame everywhere. Then came the flame, perhaps not larger than your finger or your wrist. Presently somewhere a place as big as your head was burned through, and then the whole roof was on fire. Within a very few minutes the story below the French roof showed fire at the windows. Then quite an interval elapsed, and the fire broke out simultaneously from many windows at once, as if the ignition had been impossible from want of air, until the windows were broken, when the whole burst into flames."

President Eliot of Harvard College, who happened to be in the vicinity, and who went to the fire soon after the alarm was given, says: —

"The thing I noticed most that night, up to twelve o'clock, was that water was not put on the fire. The great bulk of the water was thrown on to the vertical walls of those granite and brick buildings. The water did n't go more than three stories high, as a rule; sometimes it wen a little higher, but seldom more than three stories high. It then fel down in front of the building, across the sidewalk, and went into th street. The hose-men did n't break the windows, as a rule, and the water therefore did n't penetrate the buildings at all. I over and ove again saw powerful streams of water used in that way, where the uppe stories and roofs of the buildings on which they were playing were i a light blaze. I saw it repeatedly during that night, and as late a eight o'clock on Sunday morning. . . . . That was the most astonishin thing during that whole night, to see Americans using superb resource in that way. I would not have believed it; nothing would hav induced me to believe it. . . . . It seemed to me that there were tw defects of organization that were pretty conspicuous. One was, tha the chief engineer had apparently no means of commanding the whol field, and he had no means of sending orders. I saw this person wh was pointed out to me as Mr. Damrell run two or three times acros Winthrop Square in the course of fifteen minutes, carrying his ow orders, and of course fatiguing himself very much. He did n't see to have any means of getting intelligence from the different parts the field. In short, the fire department seemed to me to lack th methods of an army altogether, about receiving intelligence and conveying orders. Then I could n't but sympathize with the reluctance the firemen to go on such high roofs. One reason was that there wer not firemen enough to handle the hose up those high buildings, and t station men all along the line, at short intervals, to a place of safet I think hose-men who are to go on roofs are entitled to that protectio They are entitled to feel that there are experienced men all along the lin of hose on the line of retreat, who will warn them of danger and secur their retreat. It seemed to me there were not men enough attached t the hose and hose-carriages to do that."

The resources at this time, as we have shown, were not s superb as Mr. Eliot supposed. On Sunday morning, when th fire had spread so as to enable the engines to draw directl from the large mains in Washington, State, and Broad Streets powerful streams were thrown to the tops of the highest buildings; and if the Lowry Hydrants had been attached, the suppl would have been ample. There were men enough attached t the companies, if they had been properly managed. The number on regular duty that night in the Boston department alon was nearly three times as large as the regular force attached t the London department. But the engineers did not have their men "well in hand." There was a great deal of wasted energy, and a good deal of straggling.

A remarkable instance of what can be accomplished by men working with desperate energy, under a leader fertile in resources, is shown in the testimony which Mr. George Gardner gives of the way the fire was checked at Hovey's warehouse. If the limits of this article permitted, it would be well worth transcribing here, not only on account of the value of the testimony itself, but as a remarkably clear and simple statement of a very exciting contest.

Between ten and eleven o'clock in the evening, the fire was making such rapid progress, and the ordinary appliances appeared to be so unequal to any successful opposition, that many citizens who had a large amount of property at stake insisted on the use of powder. Of the conditions necessary to success in its use, they had no knowledge whatever. They had read in their school-books of the use of powder at the great fire in London; and they had heard of its use at great fires since that time, but of the manner in which it was used, and the results accomplished, they knew nothing. The chief of the fire department had made some investigations after the fire in Chicago, and had ascertained that, in almost every instance, the use of powder for this purpose had been disastrous. In the hands of inexperienced persons, laboring under great excitement (the conditions under which it has generally been used at fires in this country), it could hardly be otherwise. In the present instance there were insuperable obstacles to success. The streets were narrow and very irregular. The buildings contained a large amount of wood-work, and were generally filled with combustible materials. It was clearly impossible to accomplish anything by blowing up single buildings, and the means were wanting to do the only thing that might, under certain circumstances, have been effective, namely, the levelling of all buildings between two streets running parallel along the whole front of the advancing fire.

A large number of excited individuals had gathered in the Mayor's office, as the alarming extent of the fire became known, and under the pressure of the conflicting demands made upon him, the Mayor became as helpless and confused as the gentleman who held a similar office in London, during the great fire of 1666.* The chief engineer was summoned to the office, and induced, against his judgment, to give permits for blowing up buildings to a number of persons, most of whom were totally unqualified for the duty.† They went to work in the most reckless manner; and it was not long before the firemen became alarmed, and threatened to withdraw unless the use of powder was stopped. As the gas had not been shut off in any of the buildings or streets, it escaped in large quantities from the broken pipes; and the combustible materials in the buildings caught fire as soon as the explosions occurred. Great clouds of smoke, impregnated with the escaping gas, rose high in the air, and exploded with the noise of bursting bombs, sending out tongues of flame which were seen at a distance of sixty or seventy miles. The radiated heat was so great that the thermometer in the observatory of the United States signal office, two thousand feet distant, and dead to windward, rose five degrees in the night.

On Sunday morning it was observed that the induced currents of air, which had been very violent during the night, were beginning to die out. This has been explained on the theory that the surrounding atmosphere is deprived of its oxygen faster than diffusion can replenish it. Four fifths of the atmosphere, being carried up through the fire as inert matter, in the form of nitrogen and carbonic acid, is forced outward, and falling down, finally interposes a barrier of deoxydized air between the fire and the fresh inflowing air. Just at the time when the people were beginning to despair of saving their banking-houses and public buildings, these atmospheric changes had begun to operate in their favor. The firemen found they were making an impression upon the flames. For the reasons already stated, the supply of water was improved, and a large number of streams, projected by the full power of the engines, were turned

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* "People do all the world over cry out of the simplicity of my Lord Mayor in general; and more particularly in this business of the fire." —*Pepys's Diary,* Vol. III. p. 282.

† These permits were illegal, as the laws of the State required the assent of three engineers before any building could be destroyed; and they could not delegate the authority to blow up or pull down buildings generally.

n the fire. The permission to use powder was revoked,
ch to the chagrin of the gentlemen who were amusing them-
ves by the indiscriminate destruction of buildings. By four
lock on Sunday afternoon the fire was under control.

uring this short space of twenty hours, the fire had de-
yed property of the value of seventy-five million dollars.
e take into account the time, and the small extent of terri-
covered (only sixty-five acres, including the streets), the
is unparalleled by any fire of ancient or modern times. The
idity with which the fire spread was owing principally to the
den roofs, which crowned the high buildings erected on
row streets. There is no objection to the Mansard roof as
structed in Paris, where it is required, in all cases, that the
ls should extend above the horizontal and the slope of the
f and be coped; and where the use of wood is never allowed,
ept for the inner plankings. Mr. A. C. Martin, in his testi-
ny before the Commission, says: —

> Our architecture here in Boston has sprung from foreign architec-
> , which was carried out in stone; but it is so much easier to make
> owy window in wood, and so much cheaper, that the owners were
> ing to do it, and architects, of course, were willing to produce an
> t; so that, instead of the stone constructions which they have
> ad on their roofs, and nothing else, we have great masses of wood,
> ch become, in case of fire, very objectionable features. . . . . Then
> ink another reason why fire spreads so rapidly in our cities — I do
> know that Boston is peculiar in that respect — is that we have
> er very plenty. We put in our heavy floor timbers, three, four,
> five inches thick, and fourteen or sixteen inches deep, and from six
> welve inches apart, as the case may be; then comes the under floor
> op of these timbers, and the upper floor on top of that; then the
> ls are furred, and lathed and plastered, making all the floors and
> furring on the walls open, so that the air passes freely through;
> in case of fire, these spaces become conductors; the currents pass
> ugh very freely, and fire is communicated very rapidly, especially
> n upper direction."

n Liverpool, previous to 1843, the large warehouses were built
h continuous roofs, and with wooden doors and penthouses
the different stories. As a consequence, enormous losses
re sustained when a fire occurred, and the rate of insurance

went up from eight shillings per centum to thirty-six shillings. The building law was amended, so as to require the erection of party-walls five feet high between each warehouse; doors and penthouses were constructed of iron; the cubical contents of the buildings were limited; and the result was soon shown in the reduced rates of insurance.

It is customary to designate buildings constructed of stone and iron as fire-proof, without taking into account the tests to which these materials may be subjected, or the purposes for which the buildings are to be used. To secure an entirely fire-proof structure, large warehouses must be divided into compartments by solid brick walls, or the floors must be supported, as in the old Roman plan, upon brick piers, or groined arches laid in cement. Nearly all the buildings in Paris are built upon the flat system, with floors either vaulted or filled in with mortar, made of plaster of Paris, the best non-conducting material in use.

"It may be laid down as a rule," says Captain Shaw, "that of all building materials stone is the least able to resist the effects of fire.* It may be safely used for walls, because in that case it is supported throughout, or it may be used for stairs, provided that they are built

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* "Granite is not so likely to resist the action of intense heat as some of the other building-stones, such as limestone, sandstone, and indurated argillaceous rocks; and, in my opinion, the cause of the destruction of buildings composed of granite, the crumbling and 'blowing up' which has lately been observed in Boston, whilst brick buildings have escaped with comparatively little damage, is owing to the fact that granite being composed of a number of crystalline minerals, one of these having cavities, the majority of which are filled, or partially filled, with water, on the application of heat so intense as that of the Boston fire, would generate steam or inflammable gas to such an extent as to blow the particles of which the stone is composed into fragments; in fact so as to utterly destroy its integrity and leave nothing but a crumbling mass of ruins. Any one at all conversant with the explosive nature of steam will readily see that each crystal would be similar to a boiler without a safety-valve, being subjected to intense heat, the result being, of course, that as the heat becomes generated, without the possibility of escape, the boiler must burst, and that the brick-work (in the case represented by the other minerals of the granite) incasing the boiler, must inevitably be rent asunder." — E. HENDREN.

Evelyn, visiting the ruins of the London fire of 1666, says: "It was astonishing to see what immense stones the heat had in a manner calcin'd, so that all the ornaments, columnes, freezes, capitals, and projectures of massie Portland stone flew off, even to the verry roofe." (American edition, p. 321.)

d, but for stairs in the ordinary sense of the word, that is to say,
s with one end pinned into a wall, and the other end hanging and
upported, stone is a most dangerous material to use."[*]

Wherever iron is used, it should be protected either by good brick-
k, sound plastering, or, if nothing better can be found for the pur-
e, solid wood-work round it. Wood-work, if really sound and solid,
resist for almost any length of time every possible effect of heat
t of actual flame; even when flame has reached it, it is by no
ns destroyed at once, but on the contrary is sometimes found to last
hours; and wood protected on its under side by proper plastering
ch will not fall down or crack on the application of heat seems to
a most powerful resister of flame."[†]

The slight resistance which the pretentious granite fronts
red to the progress of the fire in Boston was doubtless owing
a great measure to the fact that the walls were, in most
es, constructed of different materials, bricks of an inferior
lity being concealed behind a thin covering of ornamented
nite or freestone. The difference in the ability of the
terials to withstand the effects of fire naturally caused a
aration of the parts. If these walls had been built entirely
stone or entirely of brick, they would have been much safer.
other cause of the rapid spread of the fire is to be found in
fact, that many of the buildings had skylights, constructed
h light wooden frames. The burning brands from the fire,
ing upon these fragile coverings, broke through, and build-
s situated a considerable distance from the main body of the
suddenly burst into flames, and led the firemen to think
t incendiaries were at work. Most of the buildings con-
ned open hoistways, extending from the basement to the
ic, which made it impossible to confine the fire to the story
which it started.

Previous to 1871 there was no attempt to regulate the con-
uction of buildings in the city of Boston. In that year a
reau for the survey and inspection of buildings was estab-
hed, but with the exception of tenement-houses it had no
isdiction over structures then erected. Its authority has
en greatly enlarged since the fire; and the regulations with

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[*] Fire Surveys, American edition, p. 29.

Practical Magazine, January, 1873, p. 24.

regard to the thickness of walls, and the materials to be used on the exposed portions of buildings, are quite as stringent as those in force in New York or London. The New York Building Act, adopted in 1871, is more complete in its details than the London Act;* but it is not enforced as strictly; and it would undoubtedly be found, upon careful inspection, that the modern buildings in the former city offered greater facilities for the spread of fire, and were much less substantial in every way than the same class of buildings in the latter city. With the exception of New York, Washington, and Boston, scarcely any supervision is exercised over the construction of buildings in the larger cities of the United States, although most of them have been visited, some more than once, during the last forty years, by many destructive fires. The fire in New York, in 1835, destroyed 648 of the best warehouses. In 1838, Charleston, South Carolina, lost 1,158 buildings; in 1845, Pittsburg lost 1,000; in 1845, New York lost 302 of its best stores and dwellings; in 1848, Albany lost 300 buildings; in 1849, St. Louis, 350; in 1850, Philadelphia, 400; and in 1851, San Francisco (in two fires), 3,000. Troy, Savannah, New Orleans, Mobile, Portland, and Brooklyn have also suffered severe losses in the same period. In Europe there have been but two great fires during that time, — the fire at Hamburg in 1842, which destroyed property valued at seven millions sterling; and the fire at Constantinople in 1870.

No better evidence could be shown of the thorough manner in which buildings are constructed in Paris than the failure of the incendiary Communists to extend their work of destruction beyond the few public buildings which they had, with devilish ingenuity, prepared for the flames. Under the same condition of things, it would have been impossible to prevent an American city from being wholly destroyed.

The President of the National Board of Underwriters, in his address at the opening of the Annual Convention of the Board, on the 23d of April last, said: —

> "Owners of property, builders, and architects alike seem to have been wilfully blind to the immense risks they were imposing upon property by the modern style of building, which, without even beauty

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* 18 and 19 Vict. cap. 122.

or character to recommend it, has obtained in this country. Even the insurance interests, though somewhat alive to the danger, were afraid to assert their knowledge, and decline to insure such buildings, preferring to go with the multitude; the penalty has been paid for this neglect of duty, at a fearful price by us all. The fact is, and we cannot and do not care to conceal it, our laws upon the subject of the construction of buildings have been too crude, and even those we have not well enforced. In Europe it is different. Not only does the government make proper laws on this important subject, but it enforces them; and in the cities of Paris, Vienna, Florence, Berlin, Amsterdam, Dresden, and Madrid, the government maintains a constant and very careful supervision by trained architects over the buildings in process of erection or alteration, no mere politicians, speculative builders, or civilians being allowed to have a voice in the matter. It is a hopeful sign that the public press seem to have awakened to the great importance of this matter, and, as the journals of all our great cities have been discussing the question of safety in building with marked earnestness, it cannot fail to awaken healthful public opinion on this vital subject. I have taken pains to collect the laws of all the leading European cities in regard to buildings, and have given them careful reading, and do not find any provisions in them that it would not be in our power to ingraft upon our laws, and enforce, and we might then hope that at least some portion of the New York or Philadelphia of our age might be the New York or Philadelphia of the next."

It may be said, upon this, that the responsibility which some of the leading insurance companies are beginning to feel for the present condition of things is another hopeful sign. The reckless manner in which the fire-insurance business is conducted in this country, growing out of the competition between companies organized under different laws, has undoubtedly done much, not only to encourage the present careless method of constructing buildings, but to produce inefficiency in the municipal organizations for the extinguishment of fires. The rates of insurance are not based upon statistics; they are not based upon anything but the judgment of individual agents, who, as a general thing, have no qualifications whatsoever for the business.

It has been said that nothing shows better the relative degrees of hazard than the different rates charged for insurance. This statement is far from true. For instance, the rate for a planing-mill or a carpenter's shop would be about six per cent; while the rate for a five-story brick and granite building filled with hemp, jute, or cases of dry goods, so as to make it inaccessible to the firemen, would be one, or three fourths of one per cent. Statistics of fires show that the losses in the case of planing-mills, carpenters' shops, match factories, and buildings used for like purposes bear no proportion to the rate of insurance charged. It is the rule to charge a higher rate on an isolated wooden dwelling-house in the country than on a brick house in the city. The stock companies charge about the same rates on a building occupied as a store that they do on the same kind of a building occupied as a dwelling-house. The mutual companies, on the other hand, would make the rate on the store three times as high as on the dwelling-house. Some of the leading insurance agents in Boston urged their companies to cancel policies at high rates in the country, and take all the risks they could get at low rates in a district crowded with high buildings, with wooden roofs, on streets not more than thirty or forty feet wide. Of the thirty-one Massachusetts stock companies doing business at the time of the great fire, twenty-three failed; and of the fifteen mutual companies, four were rendered insolvent. Here were twenty-seven companies reduced to bankruptcy by a fire which covered only sixty-five acres of ground, including the streets.* The total insurance on the property destroyed amounted to $ 56,094,082, of which about two fifths were held by companies of other States and other countries. The Massachusetts companies paid, on an average, less than fifty per cent of their losses, and the total amount collected is $65\frac{78}{100}$ per cent of the gross insurance.

The insurance on property destroyed in the Chicago fire amounted to $ 92,022,538, of which $ 33,878,000 were held by Illinois companies, and $ 58,144,538 by companies in other

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* At the special session of the Massachusetts Legislature, held after the fire in November, an act was passed requiring the authorities of cities and towns containing more than four thousand inhabitants to divide their respective cities and towns into fire-insurance districts; and insurance companies are forbidden to take or have at risk on property other than dwelling-houses and iron buildings and their contents, in one such district, an amount exceeding its "net assets available for the payment of losses in Massachusetts."

. All the Illinois companies were rendered bankrupt, ie companies in other States paid, on an average, only per cent of their liabilities. The total loss by the go fire has been variously estimated from $118,000,000 90,000,000.* Twenty-five thousand buildings, covering a of two thousand acres, were destroyed.

is been estimated that the loss from fire in 1872 (exclusive Boston fire) amounted to $40,000,000. Upon the returns iness for a single year, it appears that the best fire-insur- ompanies in the United States (the bankrupt offices being led) lost $6,000,000. The dividends paid to stockhold- ire obtained from the earnings of capital apart from the writing department.†

n after the Chicago fire an effort was made in the large to establish rates of insurance upon a sound basis; but s than sixty days, many of the companies which had in their adhesion to the new rates began to "cut under," i six months the majority of companies had returned to old practices. The severe losses sustained during the part of 1872 demonstrated the necessity of organizing form upon a wider basis. The National Board of Under- s, which had been formed some years before, but which ractically ceased to exist, was revived, with new powers ities; and with the aid of the lesson taught by the Bos- :e, it promises to perform a much-needed work. The ial Board is now composed of thirty-one State boards, hole organization containing over eight hundred local s, and seven thousand members. It is to be hoped that, lition to the subjects which have already engaged the ion of the general board, the organization of fire depart- will be considered, and an effort made to relieve them political influences, and improve their discipline. It be of great value in establishing rates of insurance upon iitable basis, if blanks were furnished to all the depart-

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President of the National Board of Underwriters (Mr. Oakley) says the oss cannot exceed $118,000,000. The Auditor of the State of Illinois ie loss at $153,000,000. The Board of Police have figured up a loss of 6,500.

Insurance Almanac, 1873.

ments, to secure a uniform return of the statistics of fires. At present, there is no system in the preparation of statistics by the chief officers of the different departments; and the returns printed in their annual reports are given in such a variety of forms, and are generally so unreliable, as to be of no practical value. It is not claimed that such statistics however complete, would furnish a definite standard for the establishment of rates; but they would, as Captain Shaw says supply some general principle, applicable to the ordinary risks of ordinary trades. "They cannot, of course, embrace the varied considerations which special cases involve, such as (independently of the important feature of moral risk) the foundation, material, situation, construction, and strength of the buildings themselves, as well as those adjoining; the quantity of the contents; the fact that these consist of the ordinary stock for which the buildings were originally adapted, or, as in many cases now, of very heavy overstock (a most important and essential point of inquiry, in the present condition of trade in London); the arrangement of the stowage of goods, with special reference to their classification and accessibility; the fact whether work is frequently done in overtime, or whether it is always done in ordinary working-hours; and many other matters which can only be ascertained by special survey on the spot." *

The records of the London Fire Brigade, during the period of thirty-three years, while it was under the control of the insurance companies, furnish some very interesting facts concerning the causes of fire. Of the 29,069 fires which occurred during that time, 3,218 were caused by the careless use of candles; 2,822 by curtains; 1,946 by foul flues; 301 by defective flues; 1,682 by gas; 1,255 by sparks from fires; 274 by spontaneous ignition; 471 by children playing with fire; 95 by children playing with lucifers; 406 by smoking tobacco; 155 by intoxication; 70 by naphtha lamps; 93 by lime slacking; 12 by lightning; 15 by hunting bugs; 34 by reading in bed; 2 by smoking in bed; and 3 by sewing in bed. Crinoline caused 3 fires; cats, 34; dogs, 9; a monkey upsetting a clothes-

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* Records of the late London Fire-Engine Establishment, p. 9.

se, and a jackdaw playing with matches, 1 each. The cause
,557 is unknown. It undoubtedly includes a large number
sed by spontaneous combustion and by incendiaries. Under
latter head 133 cases are given in the list, covering only
se in which convictions have been obtained. Recent inves-
tions have removed the mystery which formerly surrounded
y fires. It is not improbable that many persons have been
victed, upon circumstantial evidence, of setting fires for
poses of revenge or gain, when the fires were actually
sed by spontaneous combustion. It has been shown by the
eriments of Dr. McAdam, of London, that fires in flour-
s are caused by the gas evolved from flour dust and smut,
ch is liable to ignite spontaneously in certain states of the
osphere, or to take fire from sparks emitted by the friction
he stones. The introduction of hot air, hot water, and
m-pipes, supposed to reduce the risk from fires by super-
ng to a great extent the use of stoves and open fireplaces,
in fact, increased it, as the iron pipes, often heated to 400°,
frequently placed in close contact with floors and skirting-
rds. Mr. Braidwood, in his evidence before a committee
e House of Lords, stated that by long exposure to a tem-
ture not much exceeding that of boiling water, or 212°,
er is brought into such a condition that it will take fire
out the application of a light. The time during which
process of desiccation goes on, until it ends in spontaneous
bustion, is from eight to ten years.

he record of fires in New York, for two years (to April 4,
2), shows that sixty-five were caused by the spontaneous
bustion of chemicals, jute, oily rags, cotton, sawdust, and
te. The Fire Marshal of New York gives an account of
e fires which had a very curious origin. In one instance,
e broke out on Sunday night in a tea and coffee store. It
extinguished in season to discover that rats had made a
between the ceiling of the first story and the floor above,
sing oily waste taken from the engine-room in the base-
t; and this had ignited spontaneously. The stock was
vily insured, and had the fire proved disastrous, suspicion
ld inevitably have fallen upon the proprietor. A large
o-forte manufactory in Boston was set on fire last year by

a workman leaving a lighted pipe in the pocket of his co On returning from dinner he hung the coat above a pile shavings, and the tobacco, burning through the pocket, fell up the shavings, and soon set them in a blaze.

One of the most prolific sources of fire in this country petroleum and its products. It is largely used by poor peopl as it affords a cheaper light than gas. The oils which stand fire-test of 110° are comparatively safe as illuminators; but great variety of mixtures, which will not stand a test of 7 and which are as explosive as gunpowder, are sold as "burnin fluids." In many places there are no local regulations restrict the sale of these articles, and in those places whe regulations have been adopted they are not properly enforce Of the 1,380 fires which occurred in New York during the ye ending April 4, 1872, 214 were caused by these products petroleum. In Philadelphia, during the year 1872, there we 603 fires, of which 59 were from the same cause. In Chica 39 fires out of 489 were caused by "lamp explosions." T percentage from the same cause is nearly as large in oth cities.

A great many fires are caused by unprotected gas-lights shop windows, and in manufactories where combustible ma rials are scattered about. In 1871 a law was passed in N York requiring all lights in show-windows to be protected globes. Other prominent causes of fire in our large cities a defective flues, carelessness in the use of matches, overheat stoves and furnaces, and placing hot ashes in wooden rec tacles. All these figure largely, in one form or another, in t returns of the fire marshals.

In the record of fires in London, from 1833 to 1866, clas fied according to trades, it appears that the largest numb (7,321) occurred in private houses, and the next largest nu ber (2,827) in lodging-houses. The fires in carpenters' sho numbered 1,164; in bakers' shops, 533; in booksellers' a stationers' shops, 442; in printing-establishments, 223; i warehouses, 208. As the record fails to furnish the who number of buildings in the metropolis devoted to the purpo named, these statistics are of little value. The monthly su mary of fires during the same period shows a remarkable u formity in the number at different seasons of the year. The highest number (2,764) occurred in December, the lowest number (2,225) in October. In the daily and hourly summary it appears that the larger number occurred between eight and eleven o'clock, P. M. During the first twelve hours of the day there were 10,877 fires against 18,192 for the last twelve. Where a similar record is kept of fires in American cities, it is noticeable that there is substantially the same difference. Up to 1866 about one third of all the fires in London are recorded as serious. Since that year there has been a steady decrease in the proportion,—the number causing serious damage in 1872 being as low as eight per cent. In New York over thirty-five per cent of the fires for 1871-72 caused a loss exceeding one hundred dollars. The annual losses by fire are not given in the London reports, for the reason, probably, that they cannot be ascertained with any degree of accuracy. Those given in the American reports are estimates merely, and cannot be taken as a basis for any nice calculations.

During the last forty years the number of fires in London has increased from 458 to 1,494; but the increase has been marked by strange fluctuations. In 1870 there was an increase of 374; followed in 1871 by a decrease of 104, and in 1872 by a decrease of 348. During the same period the population of London increased with such regularity that the increase could be calculated quite accurately beforehand, even for a single year. The number of houses also increased in almost exact proportion to the population; one hundred houses never accommodating less than 738, nor more than 780 persons. There has been considerable difference in the ratio of increase between the fires and the population. In 1833 the population was about 1,700,000; in 1872, about 3,340,000; showing that while the fires have more than trebled, the population has not quite doubled. In this connection, the following tables of comparative statistics, which have been carefully prepared from original sources, will be of interest:—

	No. Dwelling-Houses.*	Total Loss for past 5 Years.	Loss per Capita.
New York,	64,044	15,831,859	16 80
Philadelphia,	112,366	11,470,941	16.17
St. Louis,	39,675	4,124,130	13.26
Chicago,	44,620	9,068,041 †	30.39
Baltimore,	40,350	1,772,370	6.63
Boston,	29,623	3,271,118 †	13.08
Cincinnati,	24,550	3,576,766	16.56
San Francisco,	25,905	2,795,387	18.75

	Population.‡	Area in Square Miles.	No. Fires.	No. Steam-Engines.	No. Firemen.	Expenses of Department.	Expense per Capita.
London,	3,340,000	122	1,494	28 §	396	£ 68,617	5 *d.*
New York,	980,000	22	1,380	38	629	$ 997,266.67	$ 1.02
Philadelphia,	709,000	129	655	24	353	407,737	.57½
St. Louis,	360,000		197	11	110	166,315	.46¼
Chicago,	380,000	23¾	489	16	201	382,000	1.00
Baltimore,	281,000	15	172	10	151	160,635.46	.57
Boston,	260,000	15½	389	21	459	400,000	1.54
Cincinnati,	221,000	22	213	19	154	281,935	1.27

The London Fire Brigade was organized by the famous Captain Braidwood in 1833, the funds for its maintenance being subscribed by ten fire-insurance companies, each contributing according to the amount of its business. Previous to that, there was a force of three hundred parochial engines, under the superintendence of beadles and parish engineers. Private engines were kept by some of the insurance companies. On the 1st of January, 1866, the Metropolitan Board of Works took control of the fire establishment, under the authority of an Act of Parliament.|| In addition to the engines, stations, etc., which were delivered to this board gratuitously, the insur-

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* The loss per capita is based on the census of 1870, as it would be a fair average for the years covered in the statement of losses.

† Exclusive of the great fire.

‡ In the American cities the census of 1870 is taken, and the natural increase for two years added.

§ Including three floating engines.

|| 28 and 29 Vict. cap. 90.

ance companies then supporting the establishment (twenty-eight in number) were required to contribute thirty-five pounds per million on their annual insurance. The property of the department on the 1st of January, 1873, consisted of 50 fire-engine stations, 106 fire-escape stations, 4 floating stations, 52 telegraph lines, 84 miles of telegraph lines, 3 floating steam fire-engines, 1 iron barge to carry a land steam fire-engine, 8 large land steam fire-engines, 17 small land steam fire-engines, 16 seven-inch manual fire-engines, 56 six-inch manual fire-engines, 13 under six-inch manual fire-engines, and 125 fire-escapes. For the purposes of the Metropolitan Fire Brigade, the metropolis is divided in four districts. The force consists of 4 foremen of districts, whose pay is fixed at 10 *s.* per day; 30 engineers, at 6 *s.* per day; 30 sub-engineers, at 5 *s.* per day; 60 first-class firemen, at 4 *s.* 6 *d.* per day; 60 second-class firemen, at 4 *s.* per day; 60 third-class firemen, at 3 *s.* 6 *d.* per day. The fourth-class firemen consist of those who are new to the service, and their pay is 3 *s.* per day. All the members of the brigade live at the stations to which they are attached; foremen and engineers have their rent free, and coal and gas are allowed to them; sub-engineers and firemen pay for their quarters at the rate of 1 *s.* to 2 *s.* 6 *d.* per week, according to the accommodation afforded to them. Married men's quarters are not provided until the men are promoted to the second class. There are four medical officers appointed for the brigade, one for each district. They are paid 20 *s.* per annum for each man in their respective districts, — that sum to include medicine, surgical appliances, and attendance of every kind; no extra charge whatever is allowed. There is also an examining surgeon to the whole brigade, who receives 10 *s.* 6 *d.* for the examination of each candidate referred to him for that purpose. The men are provided with a uniform, and are required to give personal security in the sum of £10 "for their clothes, and the due performance of their duties." In case of an officer or fireman being killed in the discharge of his duty, his widow is provided for by an annuity. On the death of a member of the brigade, £5 are given to the widow or family, for burial expenses. The members are not allowed to receive gratuities for services rendered in the discharge of their duty. One shilling is paid for calls, or notifications fires.*

The New York department is organized on a strictly milit basis. The city is divided into nine battalion districts, and fi company districts. The force consists of a chief engineer, w a salary of $4,700 per annum; 12 assistant engineers, with salary of $2,200 each per annum; 52 foremen, with a sal of $1,500 each per annum; 52 assistant foremen, with a sal of $1,300; two engineers to each steamer, with a salary $1,300; 8 firemen to each company, with a salary of $1,2 The men receive regular instruction in their duties, and p form patrol service in their several districts. They are g erned by general or special orders, issued from head-quart in military form. The apparatus consists of 38 steam-engi (one a self-propeller), with tenders carrying hose, and hook and ladder carriages. Under the new charter, department is managed by a board of three commissione appointed by the Mayor for a term of six years. There three bureaus in the department: one charged with the d of preventing and extinguishing fires, and protecting prope from water used at fires, the principal officer of which is cal the Chief of Department; another charged with the exe tion of all laws relating to the storage, sale, and use of co bustible materials, the principal officer of which is called Inspector of Combustibles; and another charged with investigation of the origin and cause of fires, the princi officer of which is called the Fire Marshal.

The departments in Paris, Berlin, and other large cities the Continent of Europe, are organized in a manner so entir different from ours that they can hardly be compared, exc as to the results accomplished. With inferior appara (mostly hand-machines of little power) they accomplish better results in the preservation of property from fire th the American departments; but how much is owing to super discipline and training, and how much to the superior c struction of the buildings, it is impossible to tell. Their s cess is largely due, undoubtedly, to the celerity with wh they bring their forces to bear. They recognize the fact that a small quantity of water, properly applied, in the early stages of a fire, is more effective than a large quantity a few minutes later. Although the telegraph is not made use of so extensively for giving alarms as in our cities, the men whose duty it is to put the fire out are, on the whole, more promptly notified. In Berlin no public alarm is given upon the discovery of a fire. The fact is telegraphed from the nearest police station to all the fire-stations in the city, and the corps designated for duty responds on the instant. It should be stated that the city is divided into a large number of police districts, and that the whole fire department can be called out by this system in two minutes.

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* General Rules, etc., of Metropolitan Board of Works, revised to 25th Novem 1870.

The defect of the American system is the uncertainty of having an alarm given when the fire is first discovered, or when it ought to have been discovered. The police departments in most of our cities are not organized in such a manner as to make it safe to rest the entire responsibility upon them; and, unless there is some penalty for neglect, the citizens generally cannot be relied upon with any degree of certainty to aid in the matter. The defective construction of our buildings makes it imperatively necessary, in order to prevent a repetition of the disastrous fires of Chicago and Boston, that the attendance of the firemen should be sure and prompt.

Since the foregoing was written, Mr. Joseph Bird's book on "Protection against Fire" has been published. The author has collected a great amount of curious information in regard to the origin of fires and the best manner of extinguishing them, and has produced a book as entertaining as "Pepys's Diary." It covers a wide field of personal observation and reading, and although it cannot lay claim to much consideration as a literary or scientific work, it is entitled to a good deal of consideration for the practical suggestions which it contains for the security of life and property. The purpose of the book is to impress upon the people the importance of providing means for the extinguishment of fires as soon as discovered. The comments of Captain Shaw on the neglect of our departments to provide such means have already been given. In a discussion before the London Society of Arts, in 1863, Mr.

Baddely, the experienced engine-builder, said: "Of all modern inventions for fire-extinguishing purposes, nothing, in m[illegible] opinion, is so really useful as the little hand-pump. Man[illegible] years of controversy ensued before the late Mr. Braidwoo[illegible] could be brought to regard the hand-pump with favor. The r[illegible]sult of the experiments with the little hand-engines was so sa[illegible]isfactory that every fire-engine in London travels with one; a[illegible] they have been the means, in the hands both of firemen a[illegible] civilians, of saving thousands of pounds' worth of property[illegible]

Mr. Bird's plan is to have the fire departments of cities co[illegible]posed of two brigades: the first to have charge of the hea[illegible]y apparatus now in use (the steam-engine to be altered so th[illegible]a steam may be thrown into buildings where the flames have [illegible]ot burst from the doors, windows, or roof); the second brigade to have charge of the light apparatus. He would have a small [illegible]ngine, three buckets, and one axe placed in every large build[illegible]ng used for the storage of combustible materials, or for manufact[illegible]uring or public purposes, with a card of directions as to their u[illegible]e; at the expense of the owner or occupants of the building. In certain dwellings, work-shops, and stores he would have small engines placed, at the expense of the city, so near each ot[illegible]er that one of them can be brought into use within one min[illegible]te from the time a fire is discovered in any building situate[illegible] in the thickly settled portion of the city; these engines to be operated by volunteer organizations.

In Paris there are (or were in 1866) one hundred and th[illegible]rty fire-stations, with one hundred and eighty engines, and an or[illegible]ganized force of twelve hundred men, divided into ten compan[illegible]es. One corporal and two firemen are constantly on duty at e[illegible]ch station. The engines in use are so light that they can be carr[illegible]ed into the upper stories of a building if necessary. This distri[illegible]ution of the fire apparatus enables a number of trained firemen to be on the spot within a minute or two after a fire is discover[illegible]d.

While Mr. Bird's plan would be an improvement on [illegible]he methods in use in this country, it is somewhat doubtful whether it would accomplish all that he claims for it. Its succ[illegible]ss depends too much upon the efforts of inexperienced perso[illegible]s. The present condition of society in our large cities is not fav[illegible]orable to the performance of neighborly offices. The serious business of putting out fires will be left to those who are paid to do it. The great point is, after all, to secure for the service men who will use such apparatus, and distribute it in such a manner, as will produce the best results.

During the last two years a great many ingenious contrivances have been introduced for the speedy extinguishment of fires; but it would exceed the limits of this article to attempt any description of them. In order to stimulate invention in the proper direction, the National Board of Underwriters should organize a standing commission, composed of competent engineers, to test the various kinds of apparatus in use or proposed, and report from time to time upon their efficiency. The commission would also be able to perform a great public service by establishing general rules for the management of fire departments, the preparation of statistics of fires, and a standard for hose and hydrant couplings.

JAMES M. BUGBEE.

ART. V. — *Biographical Sketches of Graduates of Harvard University, in Cambridge, Massachusetts.* By JOHN LANGDON SIBLEY, M. A., Librarian of Harvard University, and Member of the Massachusetts and other Historical Societies. Vol. I. 1642-1658. With an Appendix, containing an Abstract of the Steward's Accounts, and Notices of Non-Graduates, from 1649-50 to 1659. Cambridge: Charles William Sever, University Bookstore. 1873.

AT the right time, and eminently from the pen of the most, if we might not say the only, competent person for the accomplishing of it, Harvard College, as she graduates her two hundred and thirty-second class of alumni, receives from her diligent Librarian this labor of his love. Up to this year the number of her graduates, classified on the Triennial Catalogue, was 11,553. Of these, almost half, as the solemn and suggestive note reads, *E vivis cesserunt stelligeri.* Of ninety-eight of these who have been the longest among the stars, and who were the first to receive the rude yet tender nursing of the wilderness College, and to lead off, with honor and love, the line that is to follow them, we have here the memorials in adequate biographical sketches. So much time has spared to us. So much a diligence and a devotion for which there is no reward but in the love which prompted them have gathered and gleaned for us from the search through more than a third of a century into all the nooks and hiding-places of history.

Mr. Sibley has special and eminent qualifications for the task which he has here undertaken. Though the College numbers among its alumni many who take a fond pride in its history, and would gladly search out every historic fact relating to it, and though the taste and skill for such investigations characterize a fair proportion of our studious men, it may be fairly affirmed that no ten persons among us, combining their labors and resources, could have so faithfully or successfully accomplished the work which he has performed. Pecuniary compensation is of course out of the question. This is one of those labors in which the pleasure of congenial toil must offset the outlay of time and all the incidental expenses incurred by journeys, correspondence, the collection of materials, and the remuneration of helpers. More than a score of years ago Mr. Sibley gave proof that he possessed all the best qualities of an intelligent, accomplished, and painstaking investigator, in his "History of the Town of Union, Maine," the place of his birth. This is a model work of its kind, for authenticity, distribution of subjects, exhaustiveness of details, and vivacity and perspicuity of style. Having been appointed Assistant Librarian at Harvard in 1841, and Librarian in 1856, he has ever since been accumulating materials and maturing a wise and apt method for his present work. He has had at hand a large part of the books and papers containing the information he has needed, and he has had the training and practice which have taught him where to look for what he desired from outside sources. He for the first time edited the Triennial Catalogue in 1842, as it had never been edited before; and ten times since the successive issues of that ever-interesting and expanding publication, so eagerly sought for by the graduates, have shown more and more of the fruits of his diligence. Obituary dates were for the first time attached by him to the names in the Triennial in 1845. When the late Professor Sidney Willard, in 1855, was preparing for the press his "Memories of Youth and Manhood," Mr. Sibley, in answer to his request, addressed to him a letter, printed in the Appendix to that work, giving full particulars about the measures adopted by himself for collecting and preserving materials for biographies of the graduates of the University. The system thus instituted has been very effective for recent years. But the ascertaining of the true dates to be affixed to the star-bearing names of the deceased graduates for nearly the whole of the first two centuries of the College has been a task which very few persons would have cared to assume. Mr. Sibley wrote, in 1855, that for that purpose he had then examined "with great care several thousand volumes, and probably more than twenty thousand pamphlets."

The coming to the light of a Treasurer's old College account-book and the discovery in an office in London of an early and unique catalogue of graduates were occasions which prompted and furnished Mr. Sibley with material to communicate to the Massachusetts Historical Society, for its Proceedings in 1862 and 1864, two very valuable papers of curious information. And while he has been faithfully fulfilling his official duties as Librarian in the College, gathering from all sources, largely by personal application, treasures new and old for shelf and cabinet, and continuing and perfecting the improved system of cataloguing by cards, he has given his few spare hours, principally of the night, and in his own home, to the unwearied exacting toil of preparing these biographical sketches.

The laborious but congenial task to which Librarian Sibley has devoted himself can hardly fail to suggest to his more appreciative readers the name of old Anthony a Wood and his *Athenæ Oxonienses.* Nor is this by any means a comparison of small with great things. On the contrary, both for the general subject and for the details which enter into its treatment, we should be disposed to claim for our Cambridge historiographer an equal merit and dignity in his theme, and a relatively equal importance in the men and their accomplishments set forth in his pages. Strip the scholars, prelates, and placemen commemorated in the Oxford folios of all their adventitious and impersonal consequence derived from their connection with the social and ecclesiastical privileges accruing to them, and they themselves will stand forth as no more than the peers of many of our Cambridge graduates. And as to the works, the life labors in literature, which Wood with such elaborate minuteness has set down after the names of those who can be called authors, it would appear from his pages that very many of these were still in manuscript when he mentioned them, and have never yet emerged from that condition, even if still extant. And how few among all that attained to the honor of print have a living interest, or are worth the paper used to put them into books! As we have recently turned over the pages of those two folios, amplified by Bliss into four quartos, we have had a new reminder of De Quincey's ingenious speculations and estimates about the number of all the mountain heaps of books which are worth reading, of the proportion of them that any one would be likely to read, and how many among them all one would be the wiser or better for reading. Wood, covering a period of less than two centuries, gives us the names and the titles of the works or writings of nearly one thousand Oxford alumni. He tells us of his own natural proclivities, taste, and aptness, even from his boyhood, for the dry and almost mechanical task to which he devoted a long life. Unmarried, with no fondness for women or children, no inclination for social pleasures, he made himself a recluse, and, in fact, a literary hermit. He lived very frugally, depending on his own moderate patrimony. His intercourse with his fellow-men was mostly by correspondence for obtaining information, though he allowed himself occasionally to share the hospitality of a few tolerant persons who were in possession of documents which he wished to examine. He occupied a den in a tower-garret of Merton College, with the materials of his toil heaped around him, which no profane hand was allowed to touch for the sake of dusting or arranging them. He would shuffle out in a seedy array to take his exercise when the highways and lanes were deserted, and drop into an alehouse or a victualling-shop to satisfy his appetite, which was neither craving nor fastidious. He would go to any distance to hunt out from memorial windows, from sepulchral stones or brasses, and from parish registers anything which his mousing diligence could turn to service for his *Athenæ* or his *Fasti.* His *Antiquitates* were first published in 1674; his *Athenæ*, in 1691. He himself records, under date of 1694, that, at a festival in Trinity College, the Senior Proctor, Altham, spoke "dishonorably of the historiographer of Oxford, by calling him *scurra* and *calumniator;* one that in his late book he published, spoke of the vices and omitted the virtues of men; that he had Lynceus his eyes, prying and peeping as a spy. This was to please his dean, Dr. Aldrich, then vice-chancellor, who sat just behind him, and who beforehand had taken part with the Earl of Clarendon."

The reference in the last line is to the prosecution of Wood by the Earl Henry Hyde, for the charge of bribery in the *Athenæ* against his father, Edward, the Lord Chancellor Clarendon. The poor antiquarian was for this banished for a season from the University, and mulcted in a fine of £ 40,—the amount being appropriated to the purchase of three statues for niches to the Physic Garden.

The sharp and bitter sentence which the aforesaid Senior Proctor pronounced against Wood may be taken as significant and characteristic of the general judgment expressed concerning him by many who have been indebted to his labors. But it is manifestly unjust. Wood has received but scant returns of appreciation for his priceless toil and his immense diligence of research. He was, indeed, somewhat morose and querulous, as all such musty delvers in things the greater part of which might better be forgotten are apt to be. He affected a quaint and piquant plainness, and sometimes severity, in tone. He lived through distracted times, when his conservatism in matters of Church and State caused him much wretchedness. He was horrified and disgusted by the inquisitorial and revolutionary dealing with the Universities. He hated the non-conformists. He was accused of being secretly a papist; which, however, he was not, for he lived and died in communion with the English Church, partook of its last sacrament, and avowed his love of it in his will. But he sprinkled his pages liberally with the spice and pepper of his dislikes and prejudices towards individuals, and he knew how to use his sting to avenge an indignity or an insult to himself. When towards his last days the old man was crawling out suffering under the torments of the malady — a suppression of the contents of the bladder— which brought him to his end, he met with Dr. South. To th inquiry of that famous and sharp-tongued wit, as to what aile him, he frankly defined his trouble. Dr. South replied "that i he could not make water, he must make earth." This ungra cious and unsympathizing reminder of the certainty and nea ness of his doom touched the irritability of the antiquarian and it is said that he went at once to his den, and wrote ou that not complimentary sketch of Dr. South which appears i the *Athenæ.*

But considering Wood's intense dislike of the non-conform ists, such of them as he, in common with Mr. Sibley, has t mention, because of their connection alike with our Cambridg and the English Oxford, have but little to complain of from hi pen. He himself avowed that he found it difficult to obtain at first hand, information about non-conformist scholars an their works. They, on the other hand, were not inclined t put themselves at his mercy. Hearne, in his account of Wood speaks of "the three sorts of men with whom he held convers by letters." Two of these were "those of the Church of Eng land" and the Roman Catholics. The third class, he adds were "the non-conformists, from one or two of which, of learn ing and candor, the author was much informed. But the gen erality of this sort of men, whilst under a cloud of persecution as they call it, were very shy and jealous of imparting wha was inquired concerning their writers, not knowing what us might be made of such communications to their disadvantage If, therefore, what is said of their writers seem less satisfactory the author is not to be blamed, having been forced to be silen of some of their writers, or else to use testimonies of them from those of another persuasion."

The Mathers, especially, were treated with fulness and im partiality by Wood. Happily Mr. Sibley has been able t explain this fact to us. When President Increase Mather wa in London, in 1690, as agent of Massachusetts after the Colon charter had been vacated, he there became acquainted with ol Anthony, who asked and received from him information tha was desired concerning some non-conformist writers. Woo returned the courtesy by sending Dr. Mather a presentatio copy of his *Athenæ.* This copy, on being sold at auction in Boston, in 1869, was found to contain two manuscript letters of Wood to Mather, which Mr. Sibley copies. Wood accepts the offer which Mather makes him of New England books, and adds, "Why do you not give me an account of yourself, that I may bring that in when I speak of your father? In the last term catalogue I saw the title of a book by you published." Wood certainly writes as a gentleman in these letters, and avows his desire to be catholic and impartial in his memorials. "I must collect all," he says, "whether conformists or non-conformists, papists or of any other religion; I am not to look upon them or esteem them as to their opinions or writings, but only as they are writers." Mr. Sibley has given much fuller and more particular information concerning the persons with whom he has to deal in common with old Anthony.

There were, at one time, in the neighborhood of Harvard College, intimations, not to say apprehensions, that the work, which Mr. Sibley has wrought with such ability, thoroughness, and appreciative kindliness of spirit and judgment, was to be undertaken by a son of the College who had some striking affinities of character, temper, and experience with old Anthony Wood. The late Mr. Jonathan Peele Dabney, who graduated in 1811, and died in 1868, hung around the old College halls for the most part during the whole interval of years between those dates. He was neither married nor fond of the fruits of marriage of other persons. In look and garb, in habits of life, and sometimes in his speech and in his views of life, he showed the lack of those specialties in his aspect, ways, doings, and sentiments which the scholar especially needs to humanize and harmonize him. It was understood that he was collecting materials for memoirs of at least a portion of the graduates of the College. Whether they have been preserved, or what may be their extent or value, we are not informed.

All the recent alumni of Harvard, and all of earlier date who have retained a connection with and a living interest in it, will accord in the judgment that of all its sons, alive or at rest, Mr. Sibley could most adequately and impartially perform the grateful task that came into and has now come from his hands. Besides those primary qualities of research, thoroughness, care

for accuracy, and mastery of the field, which were so necess
and essential, he has no partialities, prejudices, or pers
bias to indulge. His aim has evidently been to serve the h
cause of truth in history and biography; to be just, can
considerate, and kindly, as well as discriminating.

We will now digest some of the details that demand no
after our examination of this volume, and then enlarge upo
few of the incidental subjects which its contents suggest w
chief interest. This is a first volume of what we hope
prove a series from the same pen. It is understood that
materials for other volumes in various stages of completen
are in hand. Indeed, the circumstances under which this
been prepared, and the researches which it has required, h
necessarily covered the field which is only to be more sy
matically wrought to fill out the series of volumes. But
thus glibly speaking of our anticipations, and of the means
realizing them, we must assure the author that we are
unmindful of the toil which the fulfilment will exact from hi

Mr. Sibley tells us that he began collecting the materials
his book in 1842, which was just two hundred years after
first class graduated from the College. This was done by h
on his reluctant acceptance of the appointment by the Pr
dent and Fellows to edit the Triennial Catalogue. Thou
no one before him had even undertaken what he has acc
plished, some four or five persons had contributed fragment
and imperfect information in interleaved catalogues. Th
were obtained by Mr. Sibley, and gradually a method was
veloped by him for searching through documents in print
in manuscript, through a wide correspondence and the m
extended inquiries for obtaining and verifying facts.
method, so far as it concerned the times and records of
long past, was amplified and supplemented by arrangeme
and devices to secure from all living graduates, and from
members of the successive classes while in College, their o
personal contributions, to be carefully arranged and preserve
the library, so that the work which has cost him so much la
for the earliest alumni may be facilitated for any one w
may at any future time continue his memorials. The m
rials which Mr. Sibley had, and the method just referred

are described at length in his Preface. There is a paragraph in this Preface which contains the only boastful or laudatory utterance about the College in which Mr. Sibley indulges himself. We write those epithets, *boastful* or *laudatory*, not because we should allow their fitness in the case, but because they might be used by some to characterize the passing encomium upon the author's Alma Mater. For ourselves, we regard this encomium as just and moderate even, in view of the facts. Summing up the effect on his own convictions and feelings of his keen research into the lives and characters of the dead, and of his intimate acquaintance with the careers of so many of the living graduates, the author writes: —

> "Going back to the early classes, I observed that several of the members went abroad and took an important part in public affairs in Europe. Of those who remained in this country, nearly all, from the great respect entertained for scholars and clergymen, exerted a commanding influence; and most of the offices of honor and trust were filled by them. They originated or urged forward the ideas and principles on which our government now rests, and which, in their expansion, are to-day agitating the world, and ameliorating the condition of mankind. Their lives and the history of the country were so interwoven that the knowledge of both is necessary to the proper understanding of either. There is probably no instance in history where the same number of young men, taken indiscriminately from various classes of society, and trained under the same auspices, have afterward, in their various spheres, exerted greater influence on the politics, morals, religion, thought, and destiny of the world than the early graduates of Harvard University. The institution itself was always in advance of public sentiment. . . . . Graduates opposed to religious intolerance and exclusiveness, and to political oppression, were constantly conspicuous as champions of progress in religious and legislative bodies and in popular assemblies," etc., etc.

An Introduction, which we wish might have been more extended, gives us very concisely the principal facts concerning the votes and measures of the General Court of the Colony in founding and first administering the College, with extracts from the public records and from a very valuable tract printed in London, in 1643, which is largely occupied with the affairs of the College, and with an account of the first Commencement. Our own inquiries and researches satisfied us years since with a conclusion which we have seen no reason to qualify or change that though the Court of the Colony deserves all the praise tha it has received for voting a sum of money equal to one year' amount of the tax or rate levied for public charges, for th noble enterprise of planting the College in the wilderness, wher all was then poor and rude, yet the institution was really established, as it has ever since been sustained, mainly by privat individual beneficence. John Harvard was more than the godfather of the College. We doubt whether a class would hav graduated from it in 1642, if his death, in 1638, had not pu into its treasury a sum at least double of that which the Cour had voted. We have our misgivings, likewise, whether th original vote of the Court took effect according to its terms.

A most scandalous and humiliating discomfiture attende the first year of the life of the College, connected with the utte unworthiness of the man to whose charge its first pupils ha been confided. This was Nathaniel Eaton. As we find hi name used oftener without than with the prefix of *Reverenc* we prefer to omit it here. Happily he had not reached th honor of being called President,—Dunster being the first hea of the institution so designated. While under Eaton's charg and in the proceedings necessarily taken against him, it called a school, and he is called a schoolmaster. Some of th scholars boarded with him. He was a tyrant, a hypocrite, an a defaulter to every obligation; seeming to possess a passio for cruelty. His wife was a slattern and a vixen; and in he domestic oversight of the boys who boarded and lodged wit her she was stingy, unfeeling, and even something wors The pair more than realized, in actual life and conduct, th worst characteristics of the establishment of Mr. and Mr Squeers, at Dotheboys' Hall. The proceedings against Eato and his wife are on record in our State House, and the files court or legislature all the world over could scarcely furnis documents of a more extraordinary tenor. Eaton was convicted, and finally brought to the confession of brutality in hi punishments; and his consort, on her part, also confessed t deficiencies and offences in her table arrangements, whic leave us in doubt whether the husband or the wife was th more odious character of the two.

Eaton managed, by trickery and flight, to escape from the righteous judgment of the Church and the magistrates; and his subsequent career abroad never retrieved his shameful course here. The letters of the time contain many references to what Governor Endecott describes as "his base cariadges," and to "the great sommes of money" constituting his indebtedness to the many victims of his hypocrisy. There is a letter extant addressed to Governor Winthrop, by a poor waif of a youth named Nathaniel Rowe, who says he was sent from England to this country by his father "verie hastelie and overmuch inconsiderately." He adds that he fell under the charge of Eaton, "to be instructed in the rudiments of the Lattine tongue. I lived with him about a moneth, and verily in that space he spake not one word to mee, *scilicet*, about my learninge, and after he went awaie, I lived an idle life, because I had noe instructor." But more cheerily he goes on: "This last half yeare [1641] hath binne spent in receiveing instructiones frome Mr. Dunster, whoe (blessed be God for it) hath biene a guide to leade mee onne in the waie of hummane literature, and alsoe in divine."

Eaton was a younger brother of that honored and revered man, Theophilus Eaton, a founder of the colony of New Haven, its first governor in 1639, and re-elected as such till his death, in 1658. Writing to Governor Winthrop, in 1640, he thus refers, with touching sadness and mortification, to his brother's course: "I can neither write, nor indeede thinke of my brother's miscariages without griefe and shame. He who searcheth the heart knew what sapp ranne within when the fairest leaves appeared outwardly, but his late, and I feare present fruite hath bin exceeding bitter, and his state the more dangerous, because I feare he is but a little sensible of it, besides much dishonour to the great name of God. I heare he hath bin very injurious to sundrie men, the particulers I fully understand not, nor as yett how farr my self am interested in his sinfull projects, &c."

But there was a vigor in the seed which had been planted, and a patient, resolute, and ever-hopeful devotion and perseverance in the hands and hearts of those who fostered its germ and its growth, which have fulfilled in the College the Scripture parable of the mustard-seed. We think that there is no parallel case to be quoted in all history in which the original and feeble first agents in any noble human enterprise, that has developed and flourished into full and proud success, ever had in view, from the first, so clear a regard to the welfare of their posterity, with a fixed assurance that what cost them so much and returned them so little would prove the richest of blessings to unnumbered generations, as did the founders of Harvard College. Many "colleges" have since been planned and started in the United States, — a great many more than will ever attain to a first century of their existence. There are "universities," also, which are at present struggling in the stages of preparatory and high-school and academy life. Some of these have been founded with degrees of the same nobleness of purpose, and far-reaching regard to the welfare of coming generations, in like straits of poverty, lowliness, and self-denial, as characterized the planting of Harvard. Many more of them are the offspring of sectarian zeal, and depend upon limitations and exclusiveness for what they have of vitality. Of late years a few men who have accumulated enormous wealth have at their own separate charges founded colleges to bear their own names. Harvard still leads the line in wealth and in stability, and is yet the youngest in vigor and expansiveness.

Before following the course of Mr. Sibley's pages, we are prompted to dwell upon one or two matters which his volume suggests, though he could not afford space to pursue them.

One of the most interesting incidental points connected with the founding and the early years of the College is that which concerns the efforts made in it for the thorough training of Indian youth. It is true that the name of only one Indian graduate appears on the catalogue of the alumni of the College. But this can by no means be admitted to be a fair index of the actual facts in the case, nor even of the results, unsatisfactory and disappointing as on the whole they were, of the aims had in view, and of the ends reached by the founders and friends of the institution in behalf of the aborigines. On the contrary, it may well be believed that every additional particular of information bearing upon this subject that comes to our knowledge, from diaries and original records, gives us new evidence that, for a time at least, the earnest and devout men of the wilderness Colony divided their care equally between the Indian and the English youth of that generation. Certain it is that the first substantial building reared within the College grounds, the costliest and the strongest, was a brick edifice known as the "Indian College." It is a fact, likewise, that many of the English youth in the College, while mastering in their course the classic and the sacred tongues, were devotedly engaged in learning the barbarous language of the natives. Quite a number of the first graduates who became ministers of the constantly multiplying churches of the jurisdiction qualified themselves to preach and pray in Indian, and to aid in the labors of the press, which were soon pursued in the Indian College, in translating primers, grammars, and tracts, for the use of the natives. The stupendous, and, we must add, the profitless and wellnigh fruitless task of turning the whole Bible into Indian was an enterprise which could hardly have been accomplished without help from the resources of the College, scanty as they then were. Indeed, that accomplished work, with all its incidental requisitions, toils, and sacrifices, and, especially in the purpose and motive of piety which prompted and which alone could have carried it through, may justly be set forth as a full offset to the saddening and harrowing pages of our history of the wastings and desolations of the natives on this soil, as the white men extended their occupancy. The personal discomforts, privations, and actual sufferings endured by such men as Eliot, Gookin, the Mayhews, Cotton of Plymouth, and others, in their converse with the Indians, not having been fully set forth by either or all of them in detail, because of the singleness of spirit and fidelity with which they were readily encountered, can hardly now be adequately recalled by any efforts of our imaginations. To share by day and night the filthy sties which we call wigwams, to come in contact with the unsavory and vermin-covered inmates, to partake of their disgusting food, unwashed, uncooked, unsalted, served generally on a chip or a piece of bark, and with the utensils of nature, and in doing all this not to wound the savage's pride of hospitality,—these were but the external conditions of the undertaking. To catch the guttural utterances of the host and his squaw, to establish a mental or spiritual relation with them in order to discover their range of impressions and ideas as related to or expressed by their grunts and their sign language, to master the method of nature's grammar, and to learn the law, if there was one, of the augments and inflections and compositions of words, some of which Cotton Mather thought had been growing in length ever since the confusion of tongues at Babel, — these were conditions in which the pupils found no help in any such resources as Max Müller has recently furnished for more favored pupils. To reduce this Indian language to writing, to be transferred to type, and then, in its poverty of terms and the narrowness of its range as a vocabulary answering to the inertness and limited activity of the savage mind, to find words as equivalents for those in the Hebrew, Greek, and English Scriptures, were other exactions of the enterprise. That the translators managed, in a way which even to any extent satisfied themselves, to find in, or to put into, the articulate speech of these children of the woods terms equivalent to those used in describing the tabernacle and the Levitical services, in conveying the figurative burdens of the Hebrew prophets, and in setting forth the technical phraseology of the letters of St. Paul, whence has come the metaphysical theology which has distracted Christendom, is a marvel the depths of which no one now living can fully sound. Perhaps Mr. J. Hammond Trumbull can cast a plummet deeper into it than any other of our scholars. It would indeed be a curious if not a profitable task, for a skilful linguist to offer to us an illustrative essay of the way and means by which the Nonantum chief, Waban, Eliot's favorite convert, was "seasoned in the divinity" of the great Apostle, and instructed in the ritualism of the children of Israel. These were lively subjects for the first students of Harvard College. But we are not aware that any "Examination Papers" relating to them are now extant.

When Edward Winslow of Plymouth was in London in 1649, as agent of that and the Bay colonies, he by his solicitations induced the Parliament to incorporate a society for the educating and evangelizing of the Indians. It was with means and help furnished by this society from the first, and afterwards by its renewal and more perfect organization under Charles II., that the College was enabled to direct so much of its early zeal into a channel of simple benevolence. Everything that aided to make the infant seminary a centre and fountain of educational activity gave assurance of its promise of permanence and expansion.

The single-hearted and devoted Daniel Gookin, of Cambridge, who had been commissioned by the General Court of the Colony to govern and oversee the Indians, completed his Historical Collections concerning his work and the subjects of it in 1674, and dedicated them to Charles II. The manuscript was not put into print until 1792. Gookin offers to the king the following, as a piece of cheering information: —

> "One thing falls in here fitly to be spoken of, as a means intended for the good of the Indians, which was the erecting a house of brick at Cambridge, in New England, which passeth under the name of the Indian College. It is a structure strong and substantial, though not very capacious. It cost between three and four hundred pounds. It is large enough to receive and accommodate about twenty scholars, with convenient lodgings and studies; but not hitherto hath been much improved for the ends intended, by reason of the death and falling off of Indian scholars. It hath hitherto been principally improved for to accommodate English scholars, and for placing and using a printing-press belonging to the College. This house was built and finished [probably in 1665] at the charge and by the appointment of the Honorable Corporation for propagating the Gospel in New England."

The Commissioners of the United Colonies in New England had previously, September 5, 1661, in an Epistle Dedicatory to the King, offered to him Eliot's "Indian Version of the New Testament," in print from Cambridge, thinking that as he came "to his crown in peace," it would greatly gratify him "that himself should be the first Christian prince, unto whom a work of this nature should be presented and dedicated."

In this epistle the following summary statement is made of the primary successes of what proved to be a forlorn undertaking: —

> "The other part of our errand hither — that we might be instrumental to spread the light of the gospel, the knowledge of the Son of God, our Saviour, to the poor barbarous heathen — hath been attended

> with endeavors and blessing; many of the wild Indians being taught and understanding the doctrine of the Christian religion, and with much affection attending such preachers as are sent to teach them. Many of their children are instructed to write and read; and some of them have proceeded further to attain the knowledge of the Latin and the Greek tongues, and are brought up with our English youth in university learning. There are divers of them that can and do read some parts of the Scripture, and some catechisms which formerly have been translated into their own language."

In the account of expenses sent by the commissioners for the society to the Honorable Robert Boyle, its governor, or president, in September, 1662, among sundry items of charges for books, etc., for Indian pupils, for their teachers in various places, and for two "Indian coats," are these specifications: —

> "To diet, clothing, and tutorage of two Indian youths at the College, one year past, with extraordinary expenses at the entrance £ 44. 12. 3. To the schoolmaster at Cambridge [Elijah Corlet], for two Indian youths £ 8. 0. 0."

Writing of the many laborers employed in the various New England settlements "for the education of sundry Indian youths," the commissioners add, in 1662: —

> "Two whereof have been, the year past, brought up in the College at Cambridge, where they have good commendations of the President and their tutors for their proficiency in learning. Also two others are at the grammar-school, and two more at the English school where they learn to read and write; one whereof is now fitted for the grammar-school, besides many others that are instructed by schoolmasters in other places to read and write. It hath pleased the Lord to frown upon our endeavors in this kind: taking away by death, at sundry times, six youth or more, upon whom considerable cost had been expended for their education, wherein it very well becometh us and all herein concerned humbly to submit unto His sovereign pleasure."

It thus appears that quite a considerable number of Indian boys were put under preliminary training, most of them in their childhood, with a view to qualifying them for the College course. The expense was heavy, perhaps occasionally relieved by a contribution of beaver-skins from their fathers, or of a day's work from their mothers. Their clothing, food, and books had all to be furnished them in charity. Gookin says: —

> "In truth the design was prudent, noble, and good; but it proved ineffectual to the ends proposed. For several of the said youth died after they had been sundry years at learning, and made good proficiency therein. Others were disheartened and left learning after they were almost ready for the College; and some returned to live among their own countrymen, where some of them are improved for schoolmasters and teachers, unto which they are advantaged by their education." Others, he says, "pursued various callings. One is a mariner, one a carpenter, one went to England, where he soon died."

The College catalogue bears the name of only one Indian graduate, Caleb Cheeshahteaumuck, in 1665, probably the year in which the Indian College was built. He died the next year. It would seem that but one more of the native stock so nearly completed the College course as almost to have entitled him to appear on the list. The account which Gookin gives, from his personal acquaintance, of these two young men is so interesting and affectionate in its tone that it may well be copied here: —

> "I remember but only two of them all that lived in the College at Cambridge; the one named Joel, the other Caleb, both natives of Martha's Vineyard. These two were hopeful young men, especially Joel, being so ripe in learning that he should within a few months have taken his first degree of bachelor of art in the College. He took a voyage to Martha's Vineyard to visit his father and kindred a little before the commencement; but upon his return back in a vessel with other passengers and mariners suffered shipwreck upon the island of Nantucket where the bark was found put on shore; and in all probability the people in it came on shore alive, but afterwards were murthered by some wicked Indians of that place, who, for lucre of the spoil in the vessel, which was laden with goods, thus cruelly destroyed the people in it, for which fault some of those Indians was convicted and executed afterwards. Thus perished our hopeful young prophet Joel. He was a good scholar and a pious man as I judge. I knew him well, for he lived and was taught in the same town where I dwell. I observed him for several years after he was grown to years of discretion to be not only a diligent student, but an attentive hearer of God's word; diligently writing the sermons, and frequenting lectures; grave and sober in his conversation."

This youth, whose character and sad fate are thus touchingly drawn out for us, was the son of a distinguished Indian convert, in 1649, at Martha's Vineyard, named Hiacoomes. He with his wife and their sons and daughters all embraced the Christian religion, and seem to have been intelligent and consistent in their course of life. Joel was the oldest son. The father and some of the children were honored and successful teachers among the natives.

Gookin adds: —

> "The other, called Caleb, not long after he took his degree of bachelor of art, died of a consumption at Charlestown, where he was placed by Mr. Thomas Danforth, who had inspection over him, under the care of a physician in order to his health, where he wanted not for the best means the country could afford, both of food and physic; but God denied the blessing and put a period to his days."

The writer says that consumption was the fatal scourge of the Indian youths that were bred up to school among the English, and that the disease was very common among the Indians themselves.

> "I know," he remarks, "some have apprehended other causes of the mortality of these Indian scholars. Some have attributed it unto the great change upon their bodies in respect of their diet, lodging, apparel, studies; so much different from what they were inured to among their own countrymen."

Still, the amiable and unwearied laborer cannot refrain from uttering, in the spirit of his time and fellowship, this lament: —

> "These awful providences of God in frustrating the hopeful expectations concerning the learned Indian youth who were designed to be for teachers unto their countrymen, caused great thoughts of heart unto the well-willers and promoters thereof."

The explanations given at the time for the thwarting and disappointing of so much zeal and toil were various. Some judged that God did not see fit to make use of Indian teachers of the Gospel; others that the Indians had got to wait until after the effectual calling of the Jews; others still, that Satan did not mean to yield up the strong hold which he had in his dominion over the barbarians. But as is always the case, that those who work in any good cause most heroically and painfully keep the best heart of trust under all discomfitures, so says Gookin: —

> "Others, whose faith and hope in God was active and vigorous, did conclude that there was nothing more in these providences and remoras than did usually attend and accompany all good designs, tending to the glory of God and salvation of souls."

The same unrewarded labor for the training of Indian youth has been continued and renewed under varying conditions and circumstances from those days to our own. Zealous and self-denying teachers, with intelligent and discreet methods, have faithfully tried to offset some of the wrongs inflicted upon the aborigines, to atone for the blight visited upon their race by civilization with its curses as well as its blessings, to withstand the doom of extinction which has seemed to threaten them, and to provide for them friends, teachers, and protectors of their own blood, by selecting some of the most promising of them in their early years to be trained for those special services of humanity. Corporations and benevolent agencies have been lavishly furnished with funds for that object. There exists to this day in Boston, in continued vitality, holding semi-annual meetings, a corporation succeeding to the old English one, bearing the title of the "Society for Propagating the Gospel among the Indians and others in destitute Places in North America." The society, with a tolerably munificent endowment, is glad to avail itself of the generalities embraced in the latter portion of its designation, and in the lack of sufficient and promising sharers of its bounty among the Indians, distributes a large portion of its income for missionaries and school-teachers among the fishermen in lonely places on our sea-coasts and islands. There are, indeed, from time to time, a few Indian boys and girls who receive help and guardianship from it in Western seminaries.

The efforts of the equally zealous emissaries and agencies of the Roman Church have not been one whit more successful in this direction than those of Protestants. It might seem as if the methods of that Church, in its freedom from the metaphysical divinity of Calvinism, and its dramatic and scenical appliances in worship, would have given it a great advantage for winnin converts and disciples among the Indians. And there hav been indeed several Roman Catholic stations for mission wor among the Indians in Canada which have outlasted any simila enterprises among Protestants. But when we carefully strik the balance and weigh results, there is but little matter o boasting left to either Church. It is remarkable that the riva experiments for the collegiate or academic training of India youth were undertaken almost contemporaneously at Cambridge and in Quebec and Montreal. We have taken note o the disappointment at Harvard. There happens to be in th hands of the writer of these pages, as he is engaged upon them the manuscript of the next book of Mr. Francis Parkman i his admirable series of works on the French colonization, discovery, and dominion in North America. He gives the write liberty to copy, by anticipation, the following sentence. Referring to the preparatory school which Laval, the Vicar Apostoli of Canada, established in 1668, in connection with the grea seminary, now the university bearing the founder's name, M Parkman says that it contained eight French and six India pupils, and he adds: "But so far as concerned the Indian it was a failure. Sooner or later they all ran wild in the wood carrying with them as fruits of their studies a sufficiency prayers, offices, and chants, learned by rote, along with feeble smattering of Latin and rhetoric, which they soo dropped by the way."

The laborious and zealous efforts made for the benefit of th Indians in Massachusetts, at a comparative cost far exceedin that which was spent upon the education of the children of th colonists, were thwarted by a train of melancholy circumstances just at the time when the results were most promisin There were some half a dozen Indian villages prosperously established in the colony, under the subordinate magistracy native officers, with farming, mechanical, and manufacturin enterprises in hopeful progress, and with churches and schoo where Indian preachers and teachers were really doing a go work. But the devastating and desolating warfare which Ki Philip initiated in 1675, and which came so near to a war extermination for the whites, brought dismay and ruin on th humane work then in progress. The converted and semi-civilized Indians under the protection of the whites, during the horrors and apprehensions of the time, were suspected of actual or possible treachery. They were mistrusted, watched, scattered, and then removed in large numbers to our harbor islands; and whatever of possible hope the future had offered for their real civilization was crushed and abandoned.

The truth must be written that the experiment in their behalf has been always, and under all circumstances, little other than a mortifying and an absolute failure. There seems to be in the blood and fibre, and in the inherited qualities and impulses, of the red man a tenacious and ineradicable preference, where the alternative of civilization is set fully before him, for his own wild ways in the wild woods. We might as well attempt to rid the deer and the sea-fowl of their game flavor as to neutralize this Indian instinct. Our historical records and our present observation fully certify this fact, that a far larger number of whites, French and English, men, women, and children, have on this continent adopted the life and habits of the Indians, by preference, when they have had the opportunity of doing so, than the whole count of converts to European civilization which have ever been drawn from the aboriginal stock.

It seems difficult to ascertain the precise date of the erection of the edifice on the College grounds for the especial use of Indian scholars. Perhaps there was one earlier than the brick building. In 1653 the Commissioners of the United Colonies instructed the members of their body from Massachusetts "to consider and order the building of on Intyre Rome att the College for the conveniencye of six hopfull Indians youthes to bee trained up there according to the advice received this year from the Corporation in England: which Rome may bee two storyes high and built plaine but strong and durable the charge not to exceed £120 besides glasses which may bee allowed out of the parcel the Corporation [in England] hath lately sent over upon the Indian account." In 1654 the Commissioners in a letter to the English Corporation refer to "the building in hand for some Indian Scollers at the Colledge whereof wee wrote the last yeare," and they ask "that allowance may bee made for Interpretors Scoolmasters and others to Instructe the Tractable Indians." It was afterwards, in the same year, 1654, left to the Commissioners of Massachusetts "to give order for the finishing of the building att the Colledge and to alter the forme agreed upon att the last meeting at Boston, as is desired by the President of the Colledge provided it exceed not thirty foot in length and twenty in breadth," &c. In 1656 President Chauncy had petitioned the Commissioners for liberty "to make use of the Indian Buildings," and it was agreed in answer that he might, with the advice of the Massachusetts Commissioners and Mr. Eliot, "for one year next ensuing Improve the said building to accomodate some English Students provided the said building bee by the Corporation [of the College] cecured from any dammage that may befall the same through the use thereof."

Thomas Stanton had been for many years a famous interpreter for the English in their intercourse with the Indians; and as his two sons gave promise of being of the same good service, the Commissioners provided for their maintenance during their education at Cambridge, that they might be trained for tutors there to Indian pupils; direction was given that they should be received in the College building or in some private house till the Indian College was finished. One of these boys, Thomas, does not appear to have availed himself of the privilege. The other, John, entered the College, and we can follow him through a part of his course by the accounts of disbursements for him. But he did not reach a degree. Indeed he seems to have been more Indian than English in his ways, and was found to to be a most irregular and untoward "schollar." His negligence and misdemeanors were made the subject of grave discussion among his patrons, the Commissioners. At their meeting in September, 1659, they were informed in a letter from the President of the College that this youth on whom they had expended "a considerable sum," in hope of his future service, "doth greatly neglect his Studdy and hath Comitted many other misdemeanors." So they addressed him over all their signatures an admonition, beginning as follows: "John Stanton we have received information from Mr. Chauncye of youer Intollarable negligence in youer studdyes and of severall miscarriages which may not bee bourne. It cannot but bee grievous to reap such fruites of all the cost bestowed, when wee justly have expected a more hopefull harvest," &c. They appeal to him earnestly and sternly to change his course, avowing that only the entreaties of his father induce them to give him a further trial, which they do, under solemn warnings.

We have allowed ourselves to dwell at some length upon this incidental element in our theme, because of our own conviction that the early aims and labors of the founders of Harvard College had a special regard to the civilization and education of the natives, and that this fact has failed of due notice and emphasis in the retrospective references to the history of the institution. The infant seminary opened the doors of its preparatory schools and its own hall on equal and impartial terms to white and red skinned pupils. Many of its earliest graduates found more use for the Indian tongue than for their Latin and Greek. The most substantial and costly building on the College field bore the title of the Indian College. When the twenty native students for whom it was designed for study and lodging-rooms could not be obtained, it was used mainly for printing tracts, primers, catechisms, grammars, and the Bible in the Indian tongue. When it became necessary to remove the building, its original use was still kept in remembrance. The Corporation had voted in November, 1693, that it should be taken down, that another building might be set up. The Commissioners of the society at whose charge it had been erected, at a meeting in Boston in 1695, voted to give the materials of the building towards the construction of another, "provided that if any Indians should afterwards be sent to the College they should have chambers in it free of rent." Judge Sewall makes this record in his Journal for 1698: "In the beginning of this moneth of May, the old Brick Colledge, commonly called the Indian College, is pulled down to the ground, being sold to Mr. Willis, the builder of Mr. Stoughton's Colledge." The Judge was both a member of the Corporation of the College and a Commissioner of the society for converting and civilizing the Indians. His Journal bears abundant evidence that both of these objects of his deepest interest shared equally in his regard. Myths are apt to gather about all historical facts, and they generally have some element of verisimilitude in them. Therefore, it may be allowable here to repeat what some romancer told old Josselyn; causing him to write in his account of his second voyage to Boston, in 1663, *that he was told* "that there was but two Fellowes in Harvard College, and one of them was an Indian."

As we shall have to notice further on, in following Mr. Sibley's pages, money, actual coin, was a very scarce article about the College in its early days, as indicated by the extraordinary barter business of the steward in arranging his accounts with the students and their parents. And real money then went a great way. We should probably, therefore, not greatly err if we conclude that the treasury of the honored corporation in England in behalf of the Indians was made directly and indirectly one of the chief sources of supply for the necessities of the College, and in helping towards the support of its primitive Faculty. The learned scholars, hard workers and living most frugally, in all their generations, as members of that society, have always welcomed any subsidiary aid for their shallow and light purses; and many of them have happily found trifling supplies of the sort, as authors, preachers, lecturers, or private teachers.

We have also incidentally brought before us a most forcible reminder of the precious hopes and the transcendent interests intrusted to the College for fulfilment and guardianship, in the anxiety which was felt from its very foundation that the Colony, which in its own straits and poverty had founded the seminary, should have a secure hold upon the life-service of those who might be trained in it. Ministers for the churches "when their present ministers should lie in the dust," was of course the paramount object, provision for which was had in view. But neither the expectations of the founders nor the training in the College had sole or exclusive reference to this object. From the first it was more and other than a theological seminary. Masters for grammar-schools, in which in turn new pupils should be prepared for the College, physicians and accomplished magistrates, who, without being professional lawyers,— a class of persons the fathers of Massachusetts did not wish or intend to have among them,—might still be skilled in the forms of legislation and administration, were expected to constitute a fair proportion of the graduates. It was therefore understood that those graduates should remain in the Colony, or at least in some of the sister Colonies, and repay by their life-work and grateful sentiments the care which had provided for them the best academic training of the age even in the Old World. Indeed there was something more than an expectation to this effect, for an effort was made to enforce an implied covenant binding the gratitude and honor of the first alumni.

The Commissioners of the United Colonies, meeting at New Haven in September, 1646, in the third year of their combination, took care as to this implied covenant. They had previously, in 1644, in answer to a petition presented to them from Mr. Shepard, the minister of Cambridge, authorized an appeal for aid for the College from all the families of the confederated Colonies, even if it should be but a peck of corn from each. But now they passed the following "conclusion": —

> "Whereas the Colonies at present affoorde some help towards the maintenance of some poore schollers in the Colledge at Cambridge in the Massachusetts, It was propounded and thought fitt that some course be taken with the parents and with such schollers themselves (as the case may require) that when they are furnished with learning, in some competent measure, they remove not into other Countries, but improve their present abillities for the service of the Colonies, and for this purpose the Commissioners for the Massachusetts were desired to advise with the generall Courte and Elders there for the orderinge such a course, and how such schollars may be imployed and incouraged, when they leave the Colledge either in New Plantations, or as Schoole masters, or in ships, till they be called and fitted for other service."

The first President, Dunster, addressed a petition for advice and instructions to the Commissioners in 1647, and among other questions he asked whether scholars that have had help from the College, through the benefactions of the Colonies, "shall accounte themselves soe ingaged to stay in the Country, as that they may not goe away without offence, and if soe, then what way they may disingage themselves."

To this question the Commissioners reply as follows —

> "It is apprehended by the Commissioners that those who have benefitt by the contributions of the Collonies should be engaged to attend the

service of the Country upon tender of imployment and maintenanc sutable to their condition and the state of the Country; but such tende being made, in case they do not acquiesce in what is presented, but fo greater outward advantage or other respect chuse to depart, the should be engaged in convenient time to repay what they have receive from the Colonies."

It does not appear that in any case a literal compliance wit this condition was ever exacted of a graduate on his leavin the country. Some who went away, as far as anything i known to the contrary, seem to have been unmindful of thei obligations to the College. But others remembered them, an gratefully did it service from their new homes in Europe or i the West Indies.

In a Declaration made by the General Court of Massach setts in 1652, in behalf of the interests of the College, it i bluntly affirmed that "this Court find by manifest experienc that though the number of schollers at our colledge doth i crease, yet as soone as they are growne upp, ready for publick use, they leave the country, and seek for and accept of implo ment elsewhere, so that if timely provision be not made it wi tend much to the disparagement, if not to the ruin, of th commonwealth."

This melancholy utterance was made just ten years after t first class had graduated from the College. That short peri had, however, been long enough to furnish what the trouble legislators called "experience" of a disappointment whic greatly saddened them. They had indeed had reason for suc feeling. The College had already sent forth more graduat than could find profitable or congenial employment here. B this is not the whole of the facts in the case. The circum stances of the time presented attractions and a field of activi abroad for many of those young and well-furnished scholar And, indeed, the College had unwittingly been training i pupils for service in the mother-country, where influences an principles in accord with those of this wilderness Commonwealt had then a temporary sway.

One of the most pathetic and interesting passages in th "History of New England," by its noble governor, Winthro relates to the state of affairs at the time in England as bearin upon the fortunes of the struggling Colony here. The sentences were evidently written under a deep depression of spirits, giving to the writer an eloquence of tender earnestness, and drawing out, in his own fixed resolutions of constancy to the undertaking to which he had consecrated himself, the assurance of his own elevated character. He had embarked his whole estate, and impoverished himself, in the great enterprise of exile. He had shared in and triumphed over the risks and perils of its early stages. He had stoutly held his courage and faith through the horrors of Indian warfare, the distractions of religious dissension, the jealousies attending the settling of a form of civil government which combined a curious mixture of the principles of a theocratic, an aristocratic, and a democratic system, and he had successfully so far used all his ingenuity, barely stopping short of artifice and subtlety, in thwarting the scheme of Laud's Commissioners to wrest the patent or charter of the Colony from its keeping.

But now he was compelled to face the possibility that so many of his associates, including some of the most capable and influential of them, were about abandoning the enterprise as to threaten its utter failure through their inconstancy. The following bears date in his Journal, June, 1641: —

> "The Parliament of England setting upon a general reformation both of Church and State, the Earl of Strafford being beheaded, and the archbishop (our great enemy), and many others of the great officers and judges, bishops and others, imprisoned and called to account, this caused all men to stay in England in expectation of a new world, so as few coming to us, all foreign commodities grew scarce, and our own of no price. Corn would buy nothing. A cow which cost last year £20, might now be bought for £4 or £5, etc., and many gone out of the country, so as no man could pay his debts, nor the merchants make return into England for their commodities, which occasioned many there to speak evil of us."

The simple truth was, that the ideas and methods of administration alike for Church and State, under which these New England Colonies had been planted and had thriven, were asserting their right to attempt an experimental trial on the broad field of the old realm. Some of our sturdier and more ambitious exiles and their sons wished to take a part in the fracas, and such Englishmen as had been purposing to find an indulgence of their republican principles here, concluded to stay at home to attempt an establishment of them there. Even our own General Court thought it advisable to send over three of our own men of mark as agents to the Parliament, and "to give advice for the settling the right form of church discipline there." The governor's eldest son accompanied them, and forty others, who, not having any commission, nor any errand but that of the prompting of their own interest in the excitements of a political convulsion, are to be looked upon as simply deserters.

The devout governor refers to the same subject again in his Journal, in September, 1642. The depression in the Colony and the exodus from it still continued. Among those who returned to England, he takes especial note of "a magistrate, four ministers, and a schoolmaster, who would needs go against all advice." The governor, evidently with satisfaction, records the special providences, both by sea and land, which visited with protracted perils of shipwreck and starvation these uneasy wanderers. "Three of the ministers, with the schoolmaster, spake reproachfully of the people and of the country" which they had deserted. Winthrop thinks the party was saved from destruction by the prayers of the fourth minister, who, as an exception, "spake well of the people of the country." The writer follows the fortunes of other deserters to various places, to show how Divine judgments pursued them. He says there was "much disputation about liberty of removing for outward advantages, and all ways were sought for an open door to get out at; but it is to be feared many crept out at a broken wall."

It is immediately after these dismal relations of facts which seemed to threaten the continuance of the occupancy of this soil by white men, closed with a touching outburst of the governor's own spirit of loyal fidelity, that he takes note of the first Commencement at Harvard, October 9, 1642: "Nine bachelors commenced at Cambridge; they were young men of good hope, and performed their acts so as gave good proof of their proficiency in the tongues and arts."

But of these nine "bachelors," the first fruits of the College, seven, as we shall see, left the country for better fortunes or more rewarding work abroad. Again, in 1645, the governor writes: "The scarcity of good ministers in England, and want of employment for our new graduates here, occasioned some of them to look abroad." Among these was Winthrop's nephew, the famous, but not honorable, George Downing. Of him we read: "He went in a ship to the West Indies to instruct the seamen. He went by Newfoundland, and so to Christophers and Barbados and Nevis, and being requested to preach in all these places, he gave such content, as he had large offers made to stay with them. But he continued in the ship to England, and being a very able scholar, and of a ready wit and fluent utterance, he was soon taken notice of, and called to be a preacher in Sir Thomas Fairfax his army, to Colonel Okye his regiment." The governor happily was spared, by his death, the knowledge of the subsequent career of his kinsman, conspicuous for high successes and worldly gains, but recreant to virtue and all nobleness.

The propitious occurrence of the first Commencement at Harvard was turned to good use by some friends of the Colony in Old England, with the help of those who went from here thither, immediately after it took place. This was the occasion of the publication in London of one of the most valuable of the little tracts relating to our early history. The title is "New England's First Fruits in Respect to the Progress of Learning in the Colledge at Cambridge, in Massachusetts Bay, &c.; published in London, in the Year 1643, by the instant Request of sundry Friends," &c. The beautiful proem to this precious tract cannot be too often quoted: "After God had carried us safe to New England, and wee had builded our houses, provided necessaries for our livelihood, reared convenient places for God's worship, and settled the civill government: one of the next things we longed for and looked after was to advance learning and perpetuate it to posterity, dreading to leave an illiterate ministry to the churches, when our present ministers shall lie in the dust." It would appear from this tract that though the General Court had, in 1636, purposed to found the College, and had voted £400, a sum equal to one year's rate for all the public expenses, for that object, the undertaking was not really initiated till the death of John Harvard, two years afterwards. His munificent bequest was one half his estate, and his whole library. His estate in this tract is put at £1,700. "After him another gave £300, others after them cast in more, and the public hand of the State added the rest." Here was a bold use of the word *State*. It would seem unwarranted to question so positive an assertion in this tract, but if any other person gave £300 before the year 1643, we are ignorant of his name. The one building for the College is thus described: "The edifice is very faire and comely within and without, having in it a spacious hall: where they daily meet at Commons, Lectures and Exercises; and a large library with some books to it, the gifts of diverse of our friends, their chambers and studies also fitted for, and possessed by the students, and all other roomes of office necessary and convenient, with all needful offices thereto belonging." This must have been a very wonderful building: its ground plan, elevation, and internal disposing would be exceedingly interesting, if they had survived only on paper. The famous Captain Edward Johnson, author of "The Wonder Working Providence of Zion's Saviour in N. England," writing in 1651, is even more tantalizing in his description of this marvellous edifice. He says: "The building, thought by some to be too gorgeous for a wilderness, and yet too mean in others apprehensions for a Colledg, is at present inlarging by purchase of the neighbour houses, it hath the conveniences of a fair Hall, comfortable studies and a good Library."

We know, however, that this edifice became prematurely ruinous, leaky, and insufficient. President Dunster addressed both the General Court and the Commissioners of the United Colonies on this subject. Writing to the latter body, in 1647, he says: "Seing from the first euill contrivall of the Colledg buildinge there now ensues yearely decayes of the rooff, walls and foundation, &c." Recourse was had to temporary repairs. The Commissioners, in a letter to the corporation in England, in 1672, after bewailing "our bereavement by death of many aged and worthy Leaders in Church and Commonwealth that layed the foundation of these plantations," and the loss of the late President of the College, refer to their "discurragement alsoe by the decay of theire buildings which were made in our Infancye, yett are now in a hopefull way to be againe supplyed with an able Presedent, and also with a New building of bricke and stone" &c. This promised building was completed in 1677.

It would be an effort, in some part, of the imagination to present to ourselves the College yard under its first occupancy with one or more buildings. The site of the College has now become as convenient for its use as any other spot in the neighborhood of Boston would be, but it has been made thus convenient because of its occupancy for its purpose. At the first it must have been very inconvenient, and we are at a loss to find the reasons for its selection. It being understood that Boston was to be the metropolis, the site of the College certainly was not readily accessible from it. A river, more than double its present width, with reedy and sedgy shores, and great expanses of muddy flats, divided Cambridge from the peninsula. The ferry at Charlestown offered, in propitious weather, the readiest means of communication, though even that required a long detour for a hard road. Little skiffs — anticipating the sculls and shells of the present boat-clubs — plied vigorously for the transport of passengers on the Charles, and cattle and goods were moved, on rafts. The causeways through both of what are now known as Cambridgeport and East Cambridge were treacherous and dangerous. As recently as 1729, Governor Burnet, while driving from Cambridge to Boston, over one of them, was overturned and thrown into the water, and died from the effects of it. The drive to Cambridge, over the Boston "Neck," through Roxbury, was long and circuitous, and even then the Charles was to be crossed, though at a narrower point. For a few weeks, in the coldest winters, there was a bridge of ice available for the venturesome. Provision was made for the keeping of a horse at Charlestown, for the President of the College.

Edward Johnson, before quoted, says that the settlement in Cambridge was surrounded by a pale "a mile and a half long, palisadoes of small trees driven into the ground and united by birch withes." This was for security against the Indians, and for the protection of cattle. The College plot was, of course, included, which, besides the dwellings clustering on it an around it, was planted as an orchard. There was a sligh elevation, called Watch Hill, near the site of the present Da Hall, and on this stood the second, third, and fourth of th buildings successively erected for the place of worship for th inhabitants and the students. Another elevation in the prese College yard, the site of Boylston Hall, was very early occupie by the parsonage.

Another edifice which won early fame, because of the exce lence of the man, Elijah Corlet, who for more than forty yea presided in it, may have been built on these grounds even b fore the first College hall. It is thus referred to in the tra published in London, in 1643, "N. England's First Fruits" "And by the side of the Colledge a faire Grammar Schoole f the training up of young schollars, and fitting of them for Ac demical learning, that still as they are judged ripe, they may received into the Colledge of this schoole. Master Corlet is t Mr. who hath very well approved himself for his abilities, de terity and painfulness in teaching and education of the yout under him." This "Grammar Schoole" represented what now call a high school. It would seem, also, that even earli than this a building, or a room in a building, had been provid for elementary instruction; a "Dame's School," for beginne in the humanities.

The first class of graduates had been under a training whi is thus described: "Over the Colledge is Master Dunster plac as President, a learned, conscionable and industrious man, w hath so trained up his pupils in the tongues and arts, and seasoned them with the principles of divinity and christiani that we have to our great comfort (and in truth) beyond o hopes, beheld their progress in learning and godlinesse also When we consider the difficulties under which the Greek, Lat and Hebrew languages were studied at that time, the de ciencies in the apparatus of learning, and the perplexities the "Grammaticall, Logicall, and Rhetoricall" exercises, a the proficiency which was none the less rigidly exacted in the from the young candidates for a bachelor's degree, we may justified in saying that the majority of the members of ea graduating class, in our own time, would have found the match in maintaining a "Thesis" or "Disputation" with the first nine of their predecessors.

The governor and "divers of the ministers" sent over the account of the first Commencement, in 1642, which is published in the little tract now referred to. It was a proud and a hopeful day when "the Governour, Magistrates and the Ministers from all parts, with all sorts of schollars, and others in great numbers were present, and did heare the exercises, which were Latine and Greeke Orations and Declamations, and Hebrew Analasis — and disputations in Logicall, Ethicall, Physicall, and Metaphysicall questions." The exercises were on a par with those of the English and Continental universities of the time, and many of the spectators and auditors had but lately passed through the same ordeal in them. It was doubtless a brave and exhilarating scene, rustic and rude in most of its accompaniments, amid the stumps of the recent forests, and with groups of half-clad natives looking on. The governor tells us that most of the guests present "dined at the college with the scholars' ordinary commons, which was done of purpose for the Students' encouragement, &c., and it gave good content to all." The banquet on this occasion, we may safely say, was relatively not inferior in material or array to some of the later ones there provided.

The readers of the volume now in our hands have for the first time the privilege and the opportunity of informing themselves as to the circumstances under which the earliest students were educated, their personal history and fortunes, the return which they made in the various forms of service to the best interests of the rising State, as they led off the long line of the alumni. The perusal of this book will sensibly add to the enjoyment which every graduate will henceforward derive from visiting the old grounds and halls.

Mr. Sibley furnishes us many particulars of interest regarding the character and devoted work of the first President, Dunster, as references are made to him in the memoirs of the graduates trained under him. He initiated and organized the method of study and discipline for the first years of the institution, and this so thoroughly and so acceptably to the views of its guardians, that this method appears to have been con-

tinued, with but few modifications, for a considerable period
years. That those who confided in him, and greatly honor
him for his character and work, should have found it necessa
to remove him from his place, was lamentable, but only natur
and consistent. He was put into that place because his reli
ious belief was in accord with that of the founders and gua
dians of the College, and thus fitted him to train up the you
committed to him in the opinions and convictions identifi
with the government in Church and State. He changed h
belief on a point then considered of fundamental and mo
vital importance. He, as well as his able successor, Preside
Chauncy, was an accomplished scholar, after the pattern
those days. They would have been recognized at Cambrid
or Oxford as equal in gifts and acquisitions to holding t
headship of any college in either university.

Leonard Hoar, the third President, of the class of 1650, a
the first of its graduates who was placed at the head of the C
lege, though he left his office in less than three years, was
man of remarkable qualities. He married a daughter of Jo
Lisle, a regicide, a distinguished lawyer, made by Cromwel
Commissioner of the Great Seal; and, afterwards, when he fl
to Lausanne, assassinated by some Irish ruffians.

Hoar's wife's mother, the widow Alicia Lisle, was arraign
before the notorious Judge Jeffrey, on a charge of high treas
for humanely receiving into her house a lawyer and a cler
man suspected of complicity in Monmouth's insurrection. T
feeble and exhausted old lady was beheaded in 1685.

Mr. Sibley copies a letter written from Cambridge, in 16
by President Hoar to Robert Boyle, in London, which conta
a very striking passage: "It hath pleased even all to ass
the college for my Sparta. I desire I may adorn it; and there
encourage the country in its utmost throes for its resuscitat
from its ruins. And we still hope some helpers from c
native land. A large well-sheltered garden and orchard
students addicted to planting; an ergasterium for mecha
fancies; and a laboratory chemical for those philosophers, th
by their senses would culture their understandings, are in o
design, for the students to spend their times of recreation
them; for readings or notions only are but husky provender

Here certainly was a noble and comprehensive forethought, as to the various departments of knowledge, investigation, and occupation, in which this generous toiler in the day of small things would have the College expand. Botanic Garden, Scientific School, laboratories, gymnasium, have come in their time; but the vision of what was possible and desirable to the old seer into the future is not yet quite fulfilled in all its terms.

The method which Mr. Sibley has pursued in tracing the biographies of the graduates is so thorough, not to say exhaustive, as to be instructive and attractive. He makes us feel a warm personal interest in his subjects, and brings us into a personal acquaintance with them. Of course the graduates of the first classes were brought here in their childhood or youth by their parents, and might still regard Old England as their home. The careful readers of our history are able to trace a very marked difference in character, disposition, breadth of view, and extent of culture between the first colonists and the first generation of their children born on this soil. There was something liberalizing and expanding in the influences and memories clinging to those who had come from the green fields, the old collegiate halls, the cathedrals, and ivy-clad churches of the mother country, and who had shared in the games and festivities and household joys of youth there. The children first born on this soil were trained under a hard and rough discipline. There was a gloom in the wilderness which had its effect on their spirits. A rigid and austere form of piety, a harsh domestic oversight, a weary round of religious observances, encompassed their childhood. Their diet, their lodgings, their apparel, were coarse and comfortless. Yet there was much in their experiences, in the sacrifices which they had to make, in the efforts required of them, in the frugality of their habits, in the arduous toil of travelling from one place to another by Indian paths and the crossing of unbridged streams, that tended to develop manliness, vigor, self-dependence, and self-reliance. Each of the new and frontier settlements planted in the interior, where a river valley made labor easier and better rewarded it, looked to the College to furnish it with a man of intelligence and piety and practical wisdom, to be both its minister and its physician. Of the ninety-eight graduates commemorated by Mr. Sibley, fifty-seven, at least, were ordain as ministers, besides those who preached; and many of the like Michael Wigglesworth, the divine of Malden, and the P Laureate of the Puritan colony, practised physic to the acce ance, if not to the benefit, of the patients of those days.

Mr. Sibley's method is to give from the catalogue the nan of the members of each class, with the subject of the thes whenever it is to be ascertained, on which each spoke wh taking his bachelor's degree. He then traces the parenta and, as far as possible, the circumstances of the early life each, his course in College, and his studies there. The comi to light of some of the old account-books of the stewards a bursars makes amusing and piquant revelations of the wa and means for meeting the expenses of residence. Only t aristocrats of the time, and not by any means all of these, c charged their College dues in anything that could be cal money. The steward must have had an extraordinary offi bureau, barn, slaughter-house, tannery, place of barter, whatever it was, for exchanging and making available the co modities brought to him. President Rogers, when a stude appears to have driven a cow to this *omnium gatherum* of t steward; for he is charged with "pastor for his cow, befor apprisall." President Oakes, when a student, in 1653, is cr ited with "a calfe; a sheepe, beaffe, wheatte, Indian, ma suger, lambs, &c." Some of the students received credits "waytinge in the hall," and for "servic in the buttery." C paid partly "in peasse," and partly by furnishing "summ inge and winteringe of 8 sheepe." Indian corn was very s established as a legal tender for currency, as well as "Peag or "Wampum."

When Mr. Sibley has thus followed each of the graduates his class through his College course, he traces out his sub quent career in life. This, we need hardly say, has bee laborious work, and has tasked the skill, the resources, t patience, and the practised acumen of this most diligent of t antiquarians among us. Of the classes of 1642–1658, includ in this first volume of biographies, we must leave out the yea 1644 and 1648, which furnished not a single graduate. T years 1652 and 1654 furnished only one each. About half the first ninety-eight graduates left the country, the majority of the earlier classes going abroad, the majority of the later ones remaining here. Of those who remained here the larger number became ministers of the Congregational churches in this and the other New England Colonies. These, too, were for the most part the writers and authors whose works, after the manner of Anthony à Wood, Mr. Sibley charges himself with the duty of presenting accurately by title and subject. We should add, however, that very many, also, of those who left the country were authors and writers abroad, some of them of works of importance at the time. These, of course, have due attention from Mr. Sibley. Of such of his subjects as remained to do their life-work here, especially as parish ministers, it was comparatively easy to construct a memoir. This work had been more or less performed for them at the time of the decease of each of them, though these early sketches admitted of or required supplementing. Parish records, gravestones, family Bibles, old letters, and all the other resources of the antiquarian have been drawn upon by Mr. Sibley. Indeed, he has contrived indirectly to present us, in the thoroughness of his method, with no inconsiderable portions of parish history, and with the details of the ecclesiastical and political systems of the Colonies. The usual proportion of the eccentric, the unsuccessful, the quarrelsome, and the unfortunate appear before us, with an occasional tragic story of a life. In the memoir of John Russell, the minister of Hadley, of the class of 1645, we have an interesting reference to the sheltering there of two of the members of the High Court of Justice which condemned Charles I., and an authentic account of the incident so romantically, but still with substantial fidelity, described in Scott's "Peveril of the Peak," and in Cooper's "Wish-ton-wish." In the memoir of Joseph Rowlandson, of the class of 1652, the minister of Lancaster, we have a thrilling relation of the Indian massacre in that town. The full and admirable sketch of the life and writings of Sir George Downing presents us with an account of an extraordinary career, however darkened and stained by hypocrisy, duplicity, and ingratitude. The memoir of George Stirk, of the class of 1646, who became a famous physician in London, doing efficient service in the time of the great plague, to which he became a victim, and the account of his astrologic and chemical writings, will absorb the attention of the reade The account of Increase Mather, the most famous of the mi isters in his generation, President of the College, and agent the Colony at its most critical period at the British Court,— serviceable and faithful man, who received hard measure in h own time, and has received the same since,—does infini credit to Mr. Sibley for its fulness, its discrimination, and i impartiality. This one draught would of itself prove the sup rior fitness of the author for his task.

When Mr. Sibley comes to deal with the matter of his secon volume, he will have to present to us the details of the mos harrowing episode in the history of Massachusetts, connecte with the witchcraft delusion. Of this the most conspicuou victim was the Rev. George Burroughs, of the class of 1670, a upright, faithful, and inoffensive man, a "muscular Christian." His great physical strength was regarded as evidence of complicity with the Devil, and he was executed at Salem in 1692. Only one other graduate of Harvard, in all its history, has suffered the extreme penalty of law. He was, also, one of its professors.

Some few of the subjects of Mr. Sibley's pages appear only in name, as either here or abroad having had but a short or obscure life, and even an unrecorded date in death. But by far the larger portion, both here and abroad, were conspicuous and honored men, doing work worthy of record, filling quiet and modest, though laborious places of usefulness, serving their own generations, and sometimes those that followed them, fitted to do the work which their times and their associates needed should be done, and meeting the severe conditions of their lot with cheerfulness.

As to the publications from the pen of many of these old worthies, which Mr. Sibley has chronicled with such care and fidelity, perhaps only those which have an historical value are remembered or consulted in our days. They stand in a fair comparative average with the works of English, Scotch, and Dutch writers of the time. They certainly are on a level in scholarship and other qualities with most of the tracts and treatises whose titles were disposed after the names of their authors, by Anthony à Wood. Bating a few noble works written for all time, the literature of those days has but scant claims on posterity. The library of the College, burned in 1764, of which we have no complete catalogue, contained the gatherings from its earlier and later friends. But one volume, from the library of John Harvard, which furnished its nucleus, was saved from the catastrophe. Doubtless its earliest books, given from the scanty stores of the exiles, were regarded as treasures, but they would be but very dry and husky mental fodder now. When Edward Everett was President of Harvard, he furnished from its archives, to Hon. Robert C. Winthrop, a list of the titles of the thirty-nine volumes given to the College by the first governor, his ancestor. In a note, accompanying the list, Mr. Everett writes: "With a few exceptions, I think I may congratulate you that your honored ancestor did not transmit them to you."

In a previous page we have taken note of the anxiety manifested by the founders and early benefactors of the College to secure to the Colony the benefits of the presence and service here, in Church and State, of its first graduates; and mention has been made of the attractions by which many of them were drawn to England in the turmoils of its political and religious convulsions. Of the class of 1642, seven of the nine alumni went, and, with one exception, remained abroad. Three of the four graduates of 1643 did the same. There were no graduates in 1644. Three of the seven graduates of 1645 left the country, as did two of the four which constituted the class of 1646. Six of the seven graduates of 1647 went abroad. The proportion from that date was generally less of those who sought to better their condition, or to exert a wider influence, by leaving New England, till we come to the classes of 1657 and 1658, each of which furnished seven graduates, all of whom remained on this side of the ocean. After that day, when the emigration to these Colonies commenced anew, a few of our stragglers returned, finding their livelihood, if not their necks, safer here than in England, when the old order, in Church and State, was to be revived.

A slight reference, from the materials gathered by Mr. Sibley, to the career of the first class of graduates, may close these pages. The arrangement by which, down to our Revolutionar War, the names of the graduates were disposed on the catalogu not in alphabetical order, but according to the social standin of those who bore them, puts Benjamin Woodbridge at the hea of the long line. Cotton Mather calls him "the Leader of th whole Company: a Star of the first Magnitude in his Conste lation." Calamy speaks of him as "a great Man every wa the first Graduate of the College: the lasting Glory as well the first Fruits of that Academy." He was of honored paren age on both sides, and had been a commoner of Magdalen Ha Oxford, before coming hither. He returned to Oxford, whe he took a master's degree, in 1648. He was an author, and learned and laborious preacher in high public stations; when, o being silenced as a non-conformist, he served in private till h death, after nearly forty years' work. He preached before Kin Charles II. once, as one of his Chaplains in Ordinary. Of S George Downing, the second on the list, an historic characte Mr. Sibley, as before remarked, furnishes an elaborate sketc Though a man of unquestioned ability, and of some high qual ties of statesmanship, he appears to have been wholly lackin in moral principle. His mother, a sister of Governor Wi throp, and herself a gentle and noble woman, did not spare h own sentence of judgment on the character of her son. H first appears in England as a preacher in Fairfax's army, th as a confidential member of Cromwell's staff. He was ne sent on diplomatic missions to France and the Duke of Sav and finally as Minister to Holland, receiving his credenti from the pen of Milton, in which capacity he did great serv as a negotiator and writer on the navigation laws. An obser of his course wrote to Clarendon that he was "as arrant a r cal as lives among men." Pepys calls him "a stingy fello He cunningly contrived to retain his ambassadorship un Charles II., and, at intervals, was in Parliament. As "a p fidious rogue" he procured the arrest and ruin of some of h old regicide patrons. He was enriched by a matrimonial uni with the Howard family. Downing College, Cambridge, w founded from his wealth.

John Bulkley, who probably went to England with his cla mate, Downing, served as a preacher, when, on being silence he became a physician.

William Hubbard, one of the two who remained in Massahusetts after graduating, wrote the History of New England.

Samuel Bellingham, son of one of the governors of Massahusetts, went to Europe, took the degree of Doctor of Medicine t Leyden, and then practised physic in London.

Henry Saltonstall, son of Sir Richard, took a medical degree t Padua, in 1649, and became a Fellow of New College, Oxford.

John Wilson remained here, serving more than forty years n the ministry.

Tobias Barnard went to England, and there we lose him.

Nathaniel Brewster, after serving as minister at Norfolk, England, and then under the Lord Deputy, in Ireland, where he eceived a degree at Dublin, returned here after the Restoration.

Samuel Mather, one of the four graduates of 1643, became Chaplain to the Lord Mayor of London, and preacher at Magdalen College, Oxford. He was Master of Arts, at Oxford, Cambridge, and Dublin, was one of Oliver's Commissioners to Scotland, and went to Ireland with Deputy Henry Cromwell. John Allin, of the same class, became Vicar of Rye, in Sussex, hen a physician in London, serving during the Plague. He was a famous astrologer, and it would appear that, after a trangely varied career, he recrossed the ocean, and was a preacher in New Jersey.

So we might cull from Mr. Sibley's pages very many sketches of the lives and fortunes, some of them of romantic or thrilling nterest, of men who, as youths, received their academic trainng in the primitive halls of Harvard, while as yet the "howlng wilderness" environed the now historic grounds. The author is sure of receiving, for all coming time, the grateful appreciation of the sons of Harvard for what he has done, while the living will unite in the hope that he will yet pursue his work.

A stanza from Dr. Gilman's exquisite Ode, "Fair Harvard," written for its Second Centennial, rings in our remembrance:

> "O Relic and Type of our ancestors' worth,
> That has long kept their memory warm!
> First flower of their wilderness! star of their night,
> Calm rising through change and through storm!"

GEORGE E. ELLIS.

ART. VI. — THE SESSION.

THE first topic to which the mind naturally reverts, in connection with the recent session, is the Crédit Mobilier investigation, and the nature and extent of the corruption it has brought to light. The most important question suggested by this topic is whether the interest thus excited will result in any serious attempt to reform our politics, or purify the management of our great moneyed corporations. Our answer to this question will depend, not on the intensity of the public indignation against the real or suspected offenders of the past, but on the wisdom and efficiency of the measures the public shall take against a recurrence of like abuses in the future. In conducting a campaign against strongly entrenched abuses, as in the military field, it is necessary to proceed in a regular and systematic manner, to beware of having the attention diverted by false attacks, and carefully to avoid engagements with our own forces. We do not hesitate to say that if the just indignation excited by the operations of the Crédit Mobilier is to be entirely expended upon the members of Congress known or suspected to be interested in that scheme, more harm than good will be done. If we wish to seek for that state of things which has made possible, not only the Crédit Mobilier, but all the other schemes which have brought American financial management into such deserved disrepute, we must look much deeper than the reports of investigating committees can carry us. The root of the evil is to be found in the vast accumulation of wealth during the past half-century, unaccompanied by any corresponding increase in the diffusion among the public of political and financial knowledge. Every citizen is now more or less dependent upon a multitude of joint-stock companies whose organization is complex to a degree never thought of in times past. The old line of stages with a single owner is replaced by the modern railroad, with its paid-up stock, its purely nominal par value, its watered stock, its preferred stock, its stock dividends, its bonds payable in gold, its bonds payable no one knows how, its mortgages, its leases, and every other device which ingenuity can suggest to prevent the public from understanding its financial condition. Against this we have no corresponding increase of financial knowledge to serve as a set-off. The average citizen of to-day knows little more of political economy and nothing more of practical finance than did his ancestors of the last century. Indeed, when we say that we no longer punish or denounce men for making the most profitable use they can of their labor and wealth, saving when they loan their money at exorbitant interest, we chronicle the only decided step in advance which we can claim to have taken. The general result is that a large portion of our national and individual wealth, and a portion in the management of which the poorest citizen has a deep interest, is in the hands of corporations of which the organization and operation are, to the masses, as great a mystery as Newton's Principia. To this state of things neither the law nor the political economy of the past are applicable, except in and through their most general and abstract principles. In the case of law we may hope to find these principles intelligently applied to suit the exigencies of the new state of things, because men are expected to make a profound study of them before entering upon the practice of the profession. But the abstract principles of political economy are held in contempt by the masses both of our citizens and statesmen, if one can properly be said to contemn a thing of which he has no correct conception, and which he would respect if he only knew what it was. The result is, that the students of political economy and finance are few in number, insignificant in direct influence, and not to be found among practical financiers.

This state of things has given rise to a powerful class of agents, managers, and operators of a multitude of kinds, whose business it is, in the majority of cases, to turn the public ignorance to the best account. They are the financial quack doctors of the body politic. In their hands the public is an Argan, tormented with a multitude of imaginary disorders of which they fully understand the symptoms and the treatment. Their remedies are as well adapted to any real disease as were those of Dr. Thomas Diaforus. Every intellectual weakness of the public tends in some way to facilitate or encourage their operations. They find the business of the country constantly suffering from a lack of paper currency, and its industry fro a lack of adequate encouragement on the part of Congres They have complete systems of political economy and financ ingeniously contrived to delude the public, but entitled to higher rank among political economists than patent-medici almanacs can claim among physicians. The worst of this cla feel a direct interest in keeping the public from understandi their operations, and therefore increase their complexity every way, and introduce some kind of financial legerdema wherever it can be applied.

To one who considers the extent of this evil, the number temptations to prey upon the public, the wide applicability Samuel Butler's trite couplet, and the difficulty of obtaini precise information respecting financial measures, it woul seem wonderful if we could find nothing worse than the Créd Mobilier to show. As a matter of fact, the past half a doze years have given rise to so many worse things on which publ indignation might be profitably expended, that we may seriou inquire whether the attack on the Crédit Mobilier is not to deplored as a diversion of our attention from the points which it ought to have been directed.

The character of the Crédit Mobilier, as a financial sche is germane to our subject only so far as we may suppose me bers of Congress to have been acquainted with it, and to ha been influenced by the hope of profit to be derived from it. does not appear that, at the time, it was known as anythi more than a contracting company to build the Union Paci Railway; we need not therefore enter into any discussion its legality, or of the moral category to which we are to assi it. The fact with which we are mainly concerned is essential this: the principal promoter of the scheme, Mr. Oakes Am fearing that when the exact character of the operation beca known public opinion would demand some adverse legislati on the part of Congress, sought to strengthen it by inducing number of the strongest members to take small quantities the stock. The plan had so much of the character of a sna that it was essential to keep the object secret from the victim he therefore assured them there was nothing improper in t transaction, for the reason that no further legislation would b asked of Congress. The latter statement was entirely correct, indeed, rather too true, for further legislation on the subject was the very thing he wished to prevent. Some paid for the stock in cash; to others he claims to have allowed credit until the accruing dividends paid or helped to pay for the stock, when the surplus was bonded over to them.

The latter cases seem, at first sight, to savor much more of bribery or corruption than the others; but if we examine them we find that the transactions, as stated by Mr. Ames, were all in strict accordance with the customs of business and the law of contracts. The question of corruption is therefore, in these cases as in the others, to be decided entirely from accessory circumstances, if we admit that the contract to purchase was entered into really and in good faith. Since the existence of the contract lies at the base of the charges against the members in question, the prosecution cannot object to its being taken for granted. But it is to be remembered that in all these cases, which include only those of Messrs. Garfield, Kelly, and Colfax, the evidence is very weak, and the facts seriously contested. Against Messrs. Garfield and Kelly the evidence of Mr. Oakes Ames is so uncertain and vacillating, and so completely unsupported by any collateral circumstances, that hardly any weight should be assigned to it, and the explanations of those gentlemen must, we conceive, be regarded as satisfactory. We do not, however, press this point because, granting the worst that is alleged against them, they would still stand on the same footing with those who paid for their stock in advance, and all might still be considered together.

After an exhaustive investigation, the conduct of which was marred only by an ill-advised attempt to keep the testimony secret during its progress, the Poland Committee found no evidence of corrupt intent on the part of any member who purchased stock of Mr. Ames. The most gratifying feature of this report is its unanimity, a feature which has not offered itself in a Congressional investigation of a political subject during the last twenty years. Judging from all recent precedents, we should have expected a majority report declaring the Crédit Mobilier a patriotic undertaking, and all the members of Congress who had been willing to invest their funds in it entitled

to the gratitude of the country; and a minority report reco
mending every one of these same members for expulsion.
deed, there are probably few sources of information to wh
the unpartisan public have, in recent years, attached less wei
than to the reports of Congressional committees on facts h
ing a political bearing. The change now inaugurated is
imperatively demanded to prevent Congress from falling i
contempt, and it is to be earnestly hoped that the members
all future committees will adopt the very sensible view of
Niblack: that desiring to vindicate the reputation of his pa
for purity, he will be more severe upon a delinquent of his o
than upon one of the opposite party.

With such a report before us, and with the essential fa
almost universally admitted, it might seem superfluous to en
into any discussion of the acts of those ten or twelve memb
who were rightfully or wrongfully suspected of purchasing Cré
Mobilier stock on the recommendation of Mr. Ames. But
public has such strong grounds for suspecting the existenc
corruption in Congress, and the form which this corrupt
takes is one so different from that presupposed in all the law
the past, that there is a strong and highly commendable dis
sition to attack all parties who can be even suspected of
proper motives in legislation. Now, the circumstances s
rounding the operations of the Crédit Mobilier have been of
mysterious and striking a character, that their investigat
seems to have dazzled the eyes of the public to nearly ev
thing else. We must therefore ask permission to review so
of the facts brought out in this case, and some of the gen
principles applicable to this and other cases. In doing this
shall not attempt to pass judgment upon, or even to consi
the case of each individual member, but shall confine our att
tion to those features which may throw light upon the nat
of Mr. Oakes Ames's project, or illustrate our system of pol
cal management.

The most striking fact, and perhaps that which has lent m
interest to the subject, is that so large a proportion of the m
bers implicated have borne the highest character among
friends of reform as efficient and honest legislators, and t
hardly one belongs to the class which a corrupt manager wo

think of approaching with improper proposals. Indeed, the sprinkling of men whom such politicians as believe in using the powers of the government to further their personal and political ends would like to have out of the way, is sufficiently remarkable to excite suspicion. The only explanation of this fact which seems to have been thought of is, that Ames selected only the strongest men, to give as much character and influence as possible to his project. If we grant this, it only lessens the probability of a corrupt motive. But there is another circumstance which tends to weaken this explanation. Every one knows that the general features of nearly all the non-political legislation of Congress are decided on by the standing committees, and that the latter are especially potent in resisting legislation, because, in the ordinary course of things, every measure is in each House referred to the appropriate committee before being acted upon. If the committee do not think favorably of the measure, they can, in nineteen cases out of every twenty, kill it by simply making no report, and in the twentieth case their adverse report will carry that large portion of the House who, not having had time to examine deeply the merits of the question, will vote with the committee. Consequently, when Mr. Ames desired to guard against adverse legislation, his most effectual course would have been to make sure of the Pacific Railroad Committee, which was all the more easy and natural from the fact that he was himself a member of the committee, and therefore, it may be assumed, in daily confidential intercourse with the other members. Now, the second suspicious circumstance worthy of attention is, that not one of the members of Congress implicated in the Crédit Mobilier was, at the time of the transactions under consideration, a member of this committee, except Mr. Ames and Mr. Brooks; and the latter, it must be remembered, was not implicated on the testimony of Mr. Ames, but was caught by an accidental sweep of the net during the examination of McComb.

A third noteworthy circumstance is the disproportion of the supposed corruption-fund to the interests at stake. A half million for engineering a "job" of the magnitude of the Crédit Mobilier through the New York Legislature would have been considered cheap at Albany; and if the managers had declared a million necessary, no objection would have been made. Congress is certainly not so cheap a body as the New York Legislature. Yet, if the facts are correctly brought out, the whole corruption-fund was only some two hundred shares, and two of the principal managers quarrelled over the question whether a score or so of shares should be allowed to Congressmen. At Albany Mr. Ames would have been laughed out of the lobby. It is not credible that financiers so acute seriously attempted a great operation with means so insignificant, nor that the votes of Messrs. Garfield and Kelly could have been secured by a payment of $329 to each.

When we consider that neither the characters, the antecedents, nor the positions of the members whom it is supposed that Mr. Oakes Ames attempted to corrupt would lead to their selection for such a purpose, and that the means used were ridiculously inadequate, one of two conclusions seems inevitable: either no serious attempt to influence Congress in an improper way was made at all, or, if it was made, the guilty parties have successfully eluded investigation, and put the public on a false scent after some of those members from whom corruptionists had least to expect.

The report of the Poland Committee affords us no data for judging which of these suppositions is the true one. For such data we must refer to the report of the committee presided over by Mr. Jeremiah M. Wilson, in which eighteen large closely printed octavo pages are devoted to a concise description of the financial transactions between the Union Pacific Railroad Company, the Crédit Mobilier Corporation, several real and sham contractors, and any number of trustees and assignees. To any one who wishes to know what is the financial management of the present day, we commend the careful study of this report, warning him, at the same time, that any attempt to keep the track of the operations in his own mind will be entirely hopeless unless he goes through a course of preliminary training in the higher mathematics. It seems from all the facts of the case that the managers had no intention of invoking the aid of Congress, but that the power of disposing of a small amount of the doubtful stock was handed over to Mr. Oakes Ames as trustee, to be used at his discretion in strengthening the scheme before Congress and the country. It is not likely that any of the two parties had any definite ideas either of the best mode of doing this, or of the manner in which the benefit should accrue to them. The plan was inspired only by a vague fear of being called to account in the future, which suggested an equally vague idea that in such a case it would be a good thing to be able to point to Messrs. A, B, and C as stockholders in the project.

Whatever view we may take of the motives of Mr. Ames in selling the stock to members of Congress, there are three facts which we believe to be undeniable, and which are conclusive of the whole question of Congressional corruption in connection with the operations alluded to. They are: —

1. That the true character of the relations between the Crédit Mobilier and the Union Pacific Railway was entirely unknown outside of those immediately interested, and that it was to their interest that it should remain unknown.

2. That when Mr. Ames sought to induce members of Congress to purchase his stock, he not only carefully concealed the fact that its possession by a member of Congress was of doubtful propriety, but avoided giving them any reason to suspect improper motives on his part. We must remember, in this connection, that no cloud then rested on his character, and that he appeared to the members in question only as a personal friend and successful financier and man of business willing to aid them by his advice.

3. That it has never been shown or even claimed either that Mr. Ames had in view any specific emergency in which he expected to secure the votes of the members in question, or that their votes were in any case whatever influenced by their possession of the stock.

Such being the case, no blame whatever can, it seems to us, be attached to a single member on account of his having bought or agreed to buy Crédit Mobilier stock from Mr. Oakes Ames. It has, indeed, been said that the large dividends received were sufficient to excite suspicion that something was wrong. But there is hardly a case in which it has been clearly shown that any member received the enormous dividends known to have been earned by the operation. We shall not, however, discuss the facts, because we conceive that the code of political ethics by which, granting the facts, the judgment is reached, and by which the public has judged all the members suspected of owning the stock, requires important alterations, if not entire reconstruction.

The case of Mr. Colfax affords an excellent illustration of what we mean. That gentleman was accused of making a profit of seven or eight hundred dollars by an investment in Crédit Mobilier. He secured a verdict of not proven by showing that during the year 1868 he had received private remittances amounting to four thousand dollars, towards defraying his personal and political expenses, from Mr. George F. Nesbit, of New York, a wealthy stationer, and proprietor of a lucrative contract for furnishing stamped envelopes to the Post-Office Department. Now, we claim that the simple fact that this contractor, an almost total stranger, Mr. Colfax says, should have been moved to such generosity toward him, is worse than the suspected profits from Mr. Oakes Ames. This is not saying a great deal, for the difference between Mr. Colfax disgraced by Crédit Mobilier and Mr. Colfax triumphant over it is so small that great subtlety of comprehension is required to grasp it. Both he and Mr. Ames tacitly agree upon these salient facts, that about December, 1867, he agreed to take two thousand dollars' worth of the stock, and to pay that amount for it, plus interest, minus dividends, as soon as he was able. In the following spring, an eighty per cent dividend in Union Pacific bonds having been meanwhile declared, Mr. Colfax was found indebted to Mr. Ames on account of the stock to the amount of $534.72, which he paid, thus becoming absolute owner of the stock, but receiving no certificate or evidence of any sort to that effect. During the following summer, finding that the company was involved in litigation, he made a verbal surrender of the stock to Mr. Ames, because he did not wish to be engaged in a lawsuit in any way whatever. But before this surrender an additional dividend of sixty per cent in cash was declared, which Mr. Ames asserts that he paid, while Mr. Colfax denies all knowledge of it. The whole question of Mr. Colfax's guilt or innocence has been made to turn on his reception or non-reception of this dividend, — a matter of no importance whatever, because if he did not receive it, he had a clear legal right to it. The intrinsic improbability that he had any corrupt motive has been already shown by the consideration that it was necessary to the success of Mr. Ames's plans that any corrupt motive on his part should be concealed from his victims, and if there was anything wrong in the investment, the plea that after all it proved a losing one was a very poor defence. We trust it will be long before a faculty for losing money in bad investments will be esteemed a desirable qualification in a legislator.

On the other hand, when Mr. Colfax proceeds to tell the public how he got the $1200 which he deposited in a bank two days after the date of Ames's check, he tells a story suggestive of political corruption in one of the most common and insidious forms which it now takes. So far as Congress is concerned, the day of bribery, as defined in the statute books, has passed by. The operator no longer bribes a member of Congress or a judge. He manages matters so as to own him in fee simple. The most common tie by which he holds his property is that of gratitude. He makes liberal contributions towards filling his private purse, and defraying the expenses of his election. He takes good care of two things: first, that the beneficiary shall know from whom the money comes; secondly, that the gift shall be accompanied by the assurance that he desires nothing in return, either in the form of office or favor, and that it is prompted solely by his admiration for the high personal character of the man in whom he takes so deep an interest. And yet he knows very well that if an occasion should arise to afford the latter an opportunity to get his benefactor out of some difficulty, he will not be so lost to all the ties of gratitude as to refuse to lend a helping hand. Hard hearted indeed must be the man who would object to the return of bread thus cast upon the waters. Men who have large money transactions, either directly with the government, or with the public through channels over which the government may have some control, know very well that a friend in need is a friend indeed, and if he can be secured by a present, the latter may prove a good paying investment.

It seems quite likely that Mr. Nesbit's overflowing liberality was of this calculating kind. He made no attempt to prevent his left hand from knowing what his right hand did. There are too many committees to whom confidential contributions toward the election of any officer can be sent, to render it necessary, in any case, to make the candidate himself the medium of transmission. There are plenty of ways in which a friend can diminish the expenses of a government officer to the amount of a thousand dollars, without the officer knowing who did it. That Mr. Nesbit had strong reasons for choosing none of these ways is pretty clearly shown by the statement, which we believe is admitted, that Mr. Colfax did have it in his power to do him or his heirs one or more little favors through his influence with the Post-Office Department, and, we may fairly suppose, did thus prove the wisdom of Mr. Nesbit's investment.

If anything more is wanting to show the entire absurdity of the test by which Mr. Colfax has been tried at the bar of public opinion, it is found in the fact that neither he nor his friends claim for him any higher merits than ignorance of the well-established fact that a dividend was due him on the stock he had purchased, and such aversion to litigation that he threw away valuable property rather than be a member of a corporation engaged in a lawsuit. He does not claim that he would have refused the dividend had it been tendered him, or that he threw away the stock because it was wrong to keep it. The former would have looked very foolish, after accepting so many pecuniary favors from Mr. Nesbit; and the latter would have exposed him to the charge of knowing or suspecting the wicked doings of the Crédit Mobilier, without trying to expose or stop them. The defence is simply maudlin sentimentality. To prove his trustworthiness, he had much better have shown that he kept the run of his dividends with care and precision, and collected them promptly when due. We are sure that a conscientious legislator is much more likely to be found in one who would spend a hundred dollars in a lawsuit rather than be defrauded out of five, than in one who would throw away two thousand dollars' worth of property rather than have anything to do with litigation.

Another instance of failure to apprehend the real danger and evil of the situation is afforded by the report of the Senate

Crédit Mobilier Committee on the cases of Senators Patterson and Harlan. In the case of the former the report seems to us unjust in a degree that can only be accounted for by extreme haste of preparation, joined with the excitement which the subject had caused in the public mind. Indeed, the former is sufficiently evinced by the structure of many of the sentences. To show that the Senators were treated with unwarrantable severity, it is hardly necessary to go behind the statement of facts presented by the committee. A person who had not read the newspapers during the investigation might read the indictment nearly through without forming any clear idea of what the wrong consisted in. The detailed narrative of Mr. Patterson's transactions and the final summing up bear strong internal evidence of being the work of different hands. The salient facts, as stated in the narrative, begin with the statement that in August, 1867, Mr. Patterson purchased from Mr. Ames thirty shares of Crédit Mobilier, paying for them three thousand dollars, which the committee distinctly state was at that time its market value. It must be admitted, at the outset, that inducing a member to purchase stock for cash at its market value is a novelty in the annals of bribery. On this stock he drew large dividends in February and June, 1868, and afterward, in cash, stocks, and bonds. The magnitude of these dividends was the only ground he had for supposing anything wrong; and, in animadverting upon them, the committee seem deeply imbued with the idea that, in stock speculation, it is morally much worse to make a good investment than a bad one.

The final summing up and the narrative disagree upon two important points. While the latter states that the price paid was the market value, the former states that it was far below the "esteemed" value. According to the latter all corrupt purposes were carefully concealed, even the expected increase of value of the stock being kept a secret, to be disclosed through the magnitude of the dividends; the former asserts that he had full knowledge of the corrupt objects of Mr. Ames in thus dealing with him. As the whole weight of evidence and probability is on the side of the committee's narrative and against their summing up, we must hold that there is no proof whatever of any corruption on Mr. Patterson's part in holding the question-able stock. The only serious fault of which he can be rea ably accused is that of wilfully making a false statement be the House committee; and, as he admitted its incorrect as soon as confronted with the proof, the only question whether he really knew it to be incorrect when he made As this is not a question in which any political principle involved, we shall dismiss it with the single remark that wh it may, from a hasty glance at the case, seem very improbal that he was not aware of the fact, there are several accesso circumstances which lessen this improbability, and make difficult to accept the theory that he wilfully made a fal statement.

We find that there was a gentleman to whom Senator Ha lan stood in the same relation in which Mr. Colfax stood to M Nesbit, leaving it with our readers to apply to that relati such general name as they may consider appropriate. Th gentleman was Mr. Thomas C. Durant, who was at the sa time vice-president of the Union Pacific Railroad, director the Crédit Mobilier, and trustee of the Oakes Ames contra He had paid Mr. Harlan ten thousand dollars to enable him get elected senator from Iowa. In almost every point M Harlan's case is worse than that of Mr. Patterson. They we on an equality only on the single point of no evidence bei found that their votes as senators were in any specific ca influenced by the transactions referred to. But in Mr. Harla case there was no pretence that the gift was a dividend on sto he owned; he had, therefore, far more reason to suspect c rupt motives than Mr. Patterson had. What was yet worse, placed himself under an obligation to his benefactor, which must have known would be embarrassing if the latter shou want his vote, while Mr. Patterson was under no such obligati to Ames. In the absence of proof that Mr. Harlan, in his ca city of senator, had done any thing corrupt for Mr. Durant, t committee cannot be blamed for acquitting him. But no o will believe for a moment that a railroad man will pay ten th sand dollars to secure the election of a senator, without havi good reason to know that it is to his pecuniary advantage so do; though whether the consideration was paid for services re dered in times past, or for some specific service to be render in the future, is not definitely settled. The case may be taken to illustrate the insufficiency of the ethical standard by which the public mind measures such transactions. For example, in some very excellent quarters the committee have been criticised for not examining more closely whether Mr. Harlan did not apply Mr. Durant's money to his own private use, instead of employing it in the senatorial canvass. In this it is implied that the distinction between the two modes of applying the money is one of public importance, as affecting the purity of the transaction. In fact, however, it is of no importance at all. Mr. Harlan's election probably cost him more than the sum given by Mr. Durant, so that this sum was an equal relief to his own pocket, in which way soever it was applied. If it was not so, the senatorship was a gift equivalent to the money. The man who makes a senator certainly owns him more than he who simply makes him a gift. If financial managers are to be allowed to carry senatorial elections in this way, we had better transfer to them the duties of the election, so that their power shall be accompanied by its full share of responsibilty.

The stress which the Morrill committee lay upon the fact that there was no corrupt contract between Mr. Harlan and Mr. Durant, and no understanding that the former should, after reaching the Senate, vote as the latter wished, shows an entire failure to appreciate the exigencies of the situation. The fact is true, but there was no understanding simply because none was necessary. Mr. Durant, considered as a representative man, had no intention of engaging in any scheme which would shock the moral sense of the community to such an extent as seriously to compromise the standing of his supporters. He only wanted help in matters where it might be given without incurring great public displeasure. And he knew Mr. Harlan well enough to be fully aware that he could rely upon his gratitude to his benefactor in any case of this sort which might arise. We need only add that nearly all the great financial and political abuses of the day are of the sort alluded to.

Our views of the principles involved in the recent charges of corruption may seem to differ so widely from those usually taken as to render a more categorical statement of them necessary. We claim that the financial corruption of the present day, as exhibited in Congress, does not consist in purchasing the votes of members, or in entering with them into corrupt agreements where their votes come in as an element, but in placing them in such a position that they feel under a moral obligation to vote as they are desired to, unless doing so would wholly violate their sense of right or of honor. Our position is, therefore, that no member of Congress, present or prospective, should allow himself to be placed in such a situation. He should accept no present from any one when he has the slightest reason to fear that the donor may ever wish for any influence in return. In regard to every individual and every interest which is likely to be seriously affected either by legislation or by governmental influence, public opinion must place legislators in the same position with judges, whom it forbids to receive valuable presents from parties engaged in litigation. We have tried each member whose case we have considered by these rules, condemning them where they seemed to be violated, and exonerating them in the opposite case.

The future of our Senate is most deeply involved in the charges brought against a number of its members of using dishonest means to secure their election. We occasionally see indications of a tendency on the part of the House to overshadow the Senate in the same way that the British Commons overshadows the House of Lords. We hold it of great importance to the stability of our government that the Senate should be able to resist this tendency, and this it cannot do unless its honor is above suspicion. From this point of view the escape of the Kansas Senators is hardly less than a national misfortune, not merely because they go unpunished, but because the Senate was thus deprived of the opportunity of proving that it was determined to preserve its purity at all hazards,— a determination which, at the present time, it is urgently necessary should be exhibited. The public has good reason to fear that if Mr. Caldwell had not resigned, he would have been allowed to retain his seat, and that thus the Senate is quite prepared to establish, in practice if not in theory, that the tenure of a seat gained by bribery is as secure as one gained in any other way. We say this, admitting that the evidence against him was scarcely such as would suffice to convict a man of good character of an infamous crime. But it is as strong as we can ever hope to obtain in any case of the kind. We must always encounter the difficulty that, as a general rule, only bad men are concerned in the business or know anything positively about it, and that if their evidence is on the side of the prosecution it necessarily criminates themselves.

Important as was the question of fact in this case, the points of law made by Mr. Conkling and others in the Senate are of vastly more importance, especially when taken in conjunction with those made by Mr. Butler in the House, in the case of the proposed expulsion of Messrs. Ames and Brooks. The point of law sustained by Mr. Conkling is briefly this: When an election of senator is conducted in exact accordance with the legal forms in such case made and provided, and the certificates of that fact and of the result of the election are all genuine and in due form, the Senate cannot invalidate the election by going behind it and inquiring into the motives of the electors in voting as they did. This legal principle was sustained by a curious combination of extremes; Mr. Conkling being joined by a number of leading Democrats, who feared that granting such power to the Senate would afford a dangerous precedent for interfering with senatorial elections in general, when the dominant party might be dissatisfied with the result. Mr. Butler's point of law is, that a member cannot be expelled for any act committed before his election.

The subject to which we wish to call attention is the splendid field which this law opens to the briber. He has only to reverse his usual mode of proceeding, by making a written contract with each member of the legislature, specifying that, in consideration of a certain sum, the member agrees to vote for him as senator, and to pay over the sum named, in the presence of witnesses, before the day of election. Then, when it is all found out, if the Senate undertakes to expel him, he exhibits his documents and produces his evidence showing that the transactions occurred before his election as senator, so that, under Mr. Butler's law, the Senate has no right to expel him. If an attempt to invalidate his election is made, Mr. Conkling's law comes to his aid, by showing that his certificates are all genuine and in due form, and that no one has a right to inqu further into the matter. Indeed, he can very easily arra the matter so as to avoid all necessity for citing Mr. Butle law, and escape under Mr. Conkling's law alone. He has on to sell himself secretly in advance to some corporation, and l the latter make all the arrangements with the members of *th* legislature. Not a shadow of wrong can then be thrown o his own good name; he has been elected in due form, it is not his fault if another person was guilty of bribery, and nothing at all can be done to him under the law in question.

We do not propose to discuss the legal question with Mr Conkling. To do so would be as puerile as to argue wheth a city on fire might lawfully burn down. That such a principle, under such circumstances, should have been propounded b a prominent member of the Senate Judiciary Committee, that i should have been supported by a large body of able men in th Senate and by leading journals in the interest of the dominan party, and that the country should finally have been left i doubt whether it would not have been seriously accepted an acted upon by the Senate itself, are altogether the severes blows which the honor, dignity, and influence of our highes legislative body has ever received, no matter how strong th legal arguments by which it may be sustained.

We have said that the evidence against Mr. Caldwell wa scarcely such as would convict a man of high character of a infamous crime. At the same time we have held that th Senate ought to have adopted the report of Mr. Morton's committee invalidating his election, without giving him a chance t escape by resignation. These two propositions may call fo some explanation. The Senate has, in recent years, fallen int suspicion to an extent that should inspire its members and th whole country with alarm. In the normal state of things, th assertion that a senator had gained his seat by corrupt mean ought to be received by the public with universal incredulity as something inexplicable and most improbable. This stat of things is tacitly presupposed when we extend to cases lik that of Mr. Caldwell the maxim of criminal law: better tha twenty guilty men should escape than that one innocent on should suffer. But the actual state of things is very different

The public know or believe the legislatures of one third of the States of the Union, perhaps we might say one half, to be more or less corrupt, many of them thoroughly corrupt. Where there are corrupt legislatures, there will always be corrupt men to manage them. The consequence is, that charges of corruption against one third of the Senate will not be received with incredulity, but will be looked upon as things not at all improbable, however difficult it may be to prove them. In this very opinion, apart from all evidence to sustain it, we have a loss of public confidence in the Senate which should alarm every thinking man. The danger is all the worse for belonging to that class which men are most prone to overlook, — dangers arising from hidden causes which give no striking evidence of their existence. The average politician thinks nothing of changes in public sentiment, unless they are accompanied by some popular outbreak. He defends his edifice against direct assault; the possibility that it may be completely undermined without his knowing it until too late, never enters his mind.

When the public so strongly suspects the purity of one third of the Senate, it will not do for the latter to wait for unattainable legal evidence before exhibiting a determination to purify itself. When we have confided to a man so great a trust as that of the office of senator, and when we suspect his purity, it will not satisfy us if investigation is only able to bring to light evidence so contradictory on the part of his associates that we hardly know what to believe. When, from the very nature of the case, unimpeachable evidence cannot be obtained, and when action of some sort is urgently demanded, we are obliged to act on probable evidence.

The hesitation of the Senate to take action in this case proceeded, not merely from a failure to apprehend the gravity of the situation, but from a mode of viewing the subject which is at the bottom of many of our political abuses and notably of those in the civil service. We have gradually fallen into the habit of looking upon an office as a piece of personal property, owned by the person who is so fortunate as to come into possession of it, or by the officer who possesses the appointing power. Probably the majority looked upon Mr. Caldwell as they would have looked upon a man who had rented a fa for six years, and whom it was now proposed to oust from p session, so that a great moral wrong was about to be done, unl it was clearly proved that he had forfeited his right. We h that this view is fundamentally wrong. The republican i of an office is not that of a right with which the office-hol is invested, but of a trust which he is executing for the ben of others. The principal difference between a king and a pre dent is, that the former professes to hold some divine or other right to his position, while no such right is possessed by the latter. That men should think of tenure of office as a right shows how difficult it is, even in this advanced stage of civilization, to seize in all their breadth and apply to all cases the fundamental ideas of a representative government. The senatorship being a trust which Mr. Caldwell was executing for the people of Kansas, and not a right with which he was invested no moral wrong would have been done him by depriving hi of it. If any wrong was done, it was done to the people Kansas, and they had ample opportunity to rectify it befo Congress again met by re-electing him.

Admitted corruption is not the only bad feature of our politics. The decay in the public sense of delicacy and propriety is equally striking, and perhaps equally worthy of attention; because, even if a less evil than positive corruption, it is more easy to remedy by a healthy public sentiment. By the sense of delicacy and propriety we mean that instinct which revolts not merely at the thought of breaches of the statute law, but at the idea of any act which can give rise to a reasonable suspicion of selfish, sinister, or improper motives. Until a quite recent period the respect for this instinct shown by our public men in their relations to the public was a highly gratifying, though almost unnoticed feature of our politics. But when the war of the Rebellion broke out, every other idea was subordinated to that of its vigorous prosecution; and before we had time to recover from the demoralizing effect of this subordination, the war with President Johnson assumed a phase in which official propriety looked like child's play. This state of things culminated during the impeachment trial in the scandalous spectacle of the very man who was to assume the President's office, in case of Johnson's removal, being allowed to vote his guilt.

As if to return to their constituents with the worst possible name, the Forty-third Congress signalized its closing hours by a grave offence of like character with those above stated, in voting about a million and a half from the public Treasury into the pockets of its members. The impropriety of the act consisted less in its wrongfulness from a moral point of view than in the contempt shown by Congress for its own good name. After the ordeal it had passed through, one would have expected to find it on its good behavior during its closing days, instead of which it took pains to show that a reputation for good behavior was the last thing it cared for. With respect to their sentiments and votes on the back pay question, members may be divided into three classes: those who supported it on its merits, those who opposed and fought it to the end, and those who, while opposed to it on principle, yielded rather than endanger the Appropriation Bill to which it was appended. The first class would seem to have been in a considerable minority in the House, so that the provision was put into the bill against the wishes of the majority. This was done under a system of which some complaint has recently been made, namely, that which gives committees a controlling voice in legislation. The final committee of conference on the Appropriation Bill in question was composed of six members, three from each house, and it would seem that only one out of the six, Mr. Garfield, was opposed to the back pay. The committee reporting in favor of the measure, there was no course but to accept it, or to call for a new committee of conference. The closing hour was so near that this course would have endangered the bill, and the number of members who, though opposed to the measure, were unwilling to do this was sufficient to secure its acceptance.

These men, we conceive, deserve sympathy rather than reproof at our hands, for the reason that they seem likely to be the worst punished. Of the original supporters of the measure, the most either had nothing to lose politically or represented constituencies who care little for the character of Congress. The really good men, who felt themselves forced to join them, made, we conceive, a grave mistake; but if we reflect that by continuing the contest, they might have had to face their constituents with the charge that they had made an extra session of Congress necessary, we may admit that the mistake was only one of judgment. The system which gave rise to such an act is one which it is much easier to criticise than to find a remedy for. Bad as it sometimes looks, he would be a bold man who should attempt to contrive any better mode of discussing and passing laws than that actually adopted. Improvements in legislation and in the general tone of Congress must be sought rather by a better mode of choosing members.

An excellent beginning toward a better state of things will be made if the public will relieve candidates for office from the degrading business of personally engaging in efforts to secure their nomination. We all remember the time when, if a candidate for Congress was in the town where a nominating convention was held, his friends kept him carefully concealed from public view, to be sent for only in case he was successful. The disposition now seems to be to look upon all this as mere formalism; but the customs of civilized society have their origin in a sense of public propriety and in a feeling of mutual respect, which cannot be set aside without speedily depriving society itself of the marks of civilization. The spectacle presented in Massachusetts, two years ago, of a gubernatorial candidate endeavoring to force his own nomination through a convention was, comparatively, as great a blemish on our civilization as if our people should all throw off the manners of ladies and gentlemen. A reform in this direction is one of the easiest things in the world to carry out; it is only necessary to adopt the rule of voting for nobody who is on the ground soliciting votes or influence. This reform is demanded on grounds much more cogent than those of simple good taste. The frequency, we might almost say the universality, of bargains, expressed or implied, between candidates and political leaders, is probably at the bottom of more corruption than is commonly supposed. Even where there is no bargain, the consciousness, on the part of an officer, that he owes his election, not to the spontaneous action of his constituents, but to the working capacity of a few friends, must be demoralizing. If these friends have private interests which they wish him to employ his offi-position in promoting, and if their support was given on personal solicitation, he can preserve his purity only by an which his political supporters may look upon as one of base atitude.

, in discussing the proper remedy for our political evils, we ıld begin by saying that every reform must have its origin healthy public sentiment, which can be produced only by ry slow and gradual process of education, the proposition ht seem too trite to be formally propounded. We mention show that one of the most needed reforms is that of the s. The daily and weekly journals are now our great edurs. To say that the great majority of them admit of a ded improvement in the tone of their comments on public rs must not be taken as an unqualified reflection upon their luctors. If we consider how numerous are the private and y interests which are willing liberally to reward a journal upporting them, and how slow in comparison are the res from a single-minded devotion to the public interests, we l find more cause for congratulation that our press is as as it is than for complaint that it is not better. There is, ever, one class of journals to which this consideration canbe applied, namely, those published at the national capital. Washington journals are legitimate subjects of criticism, use most of them are in great part supported by the nal government, and may therefore be fairly taken as specis of governmental contributions to journalism. They are, ct, employed to advertise proposals for services and supto be rendered all over the Union. In papers the existof which is hardly known outside the District of Columwe find announcements at full length of sales of mules in aska, old stoves in Kentucky, and grain sacks in Kansas, whole columns inviting proposals for furnishing wood, oats, and straw in New York, Pensacola, St. Paul, and Francisco. A fourth part of the entire paper is frequently occupied with useless advertisements, which are kept in the very morning on which the time expires, so that the er will frequently see an announcement that a government of old stores is taking place in Texas or Dacotah at the time he is reading.

It is difficult to conceive that this patronage has any othe object than that of sustaining the journals thus favored in th work of "supporting the government." It is needless to sa that they do this to the best of their ability, but it is a seriou question whether their support is not a greater source of weakness than of strength to the administration. Must not the la ter suffer by being associated in men's minds with journal which have distinguished themselves only by the defence c every corruptionist and every abuse that has been exposed du ing the past few years, and by attacks on every effort to correc such corruption and abuses? The fact is, that Washington ha got to be a sort of national cockpit in which the two parties pi their opposing papers and organizations against each other fo their own gratification. The contests are of hardly more importance in politics than those of the sporting world are in civilization, yet they are kept up at the expense of the nation.

The wrong thus done is intensified by the fact that the national capital offers a splendid field for a high class of jou nalism in every respect except lucrativeness. A newspaper the first class, published on the spot, has an opportunity of fo lowing the daily current of political events, and becomi intimately acquainted with the inner working of the gover mental machinery which cannot be enjoyed by one publishe elsewhere, while, at the same time, it reaches the immedia leaders of public opinion in every part of the Union. Such journal would now find the government competing with it b the support of papers of the lowest class.

We may expect something from civil service reform in pr moting, not only general purity of administration, but legisl tive efficiency. The member of Congress has hitherto had much to do with the disposal of offices and other political ma ters belonging to the executive department of the governmen that he has had too little time and attention left him for h legislative duties, and this is one of the principal causes fro which legislation has hitherto suffered. Another object of th reform is to stop the bargaining and sale of offices by unscrup lous men for the purpose of securing their own personal ac vancement. The extent to which this scandalous practice i carried under the old system is entirely unknown to the public because, as in any other case of bribery, it is for the interest of the parties concerned to hide their transactions.

Among the practices not positively criminal at which the efforts of reformers are now aimed, the abuse of the civil service is the solitary one which does not admit of any defence whatever. It may be claimed, without positive unreasonableness, that the facile politician, trimming his sails to suit every breath of political opinion, is the one who has most respect for the views of his fellow-men, and who seeks to represent the exact feelings of his constituents, while the representative whom we praise for his conscientious adherence to what he believes to be for the best, against any amount of outside pressure, is, after all, only an obstinate man who considers his own opinion worth more than that of the public. The astute manager may be defended as one who can best divine the wishes of the public. Political conventions may accurately reflect the views of the party; and if they suffer themselves to be led by a dozen men, it may be claimed that it is because this dozen know exactly what ought to be done. That large and often mischievous class of working politicians who never seek office for themselves admit of eulogy as unselfish patriots, and the value of their work may be defended by arguments not unworthy of notice. But the use of the appointing power to forward the political objects of its possessors is not seriously defended by any one worth listening to, for the simple reason that no valid defence is possible. When we claim that the consciousness, on the part of a public officer, that he has gained his office, not by especial fitness for it, but by doing work for the dominant party, and that its tenure depends, not on the manner in which he performs its duties, but on the satisfaction he gives to a set of men who have no interest whatever in it, is totally demoralizing to the public service, we claim what there is none to dispute. Our adversaries defend their position only in an indirect way, by attacking every one who proposes to effectually change the practice, and every measure which tends to such a change. These attacks are urged on by so influential a party, that a brief statement of what we believe to be the position of civil service reformers may not be out of place.

Offices are created, not for the benefit of the appointing power, or of the holder, but for that of the public. Since the number of offices is very small compared to the number o citizens ready to fill them, a selection must be made from the latter. Among those equally well qualified and willing to accept, the appointing power should select the one who, by his intellectual capacity and wide intelligence, is most likely to prove a valuable officer in the future. Every man who admits that intellectual capacity and wide intelligence are qualities o the highest value in every servant of the government down to the lowest, and who conscientiously desires to make their possession the test of appointment, is to be classed as a civil service reformer, whatever be his opinions of the best mode o testing the possession of the qualities sought for. We only demand that he shall accept the logical consequences of the principles he professes to hold.

The first consequence is that the test must be a competitive one. In the case of those minor offices which cannot be filled by men of wide reputation, it is impossible to learn who is best qualified except by inviting every one whom there is reason to believe competent to come forward and make known his qualifications, in order that the best obtainable officer may be selected. The only point on which opinions can reasonably differ is the choice of the proper test. On this we shall only say, that there is no surer mark of the possession of those qualities which make a man valuable to his fellows than the propensity to acquire superfluous knowledge. We might claim that all human progress is due to this propensity, and that the civil service reformers are fully justified in making it the main criterion by which to judge of the value of an officer to the government. From this point of view, the fears entertained by a large body of the public lest candidates shall be examined on matters not germane to the duties of the office they seek are simply pitiable, and the only fault to be found with the civil service examinations is, that they indicate too deeply the influence of this fear.

Outside of the regular routine of legislation, two of the most important bills before Congress were those for the restoration of the currency and the revival of American commerce. We believe the former is the only subject on which all parties are unanimous, it being universally conceded that specie payment is an excellent thing. We are indeed aware that Mr. Butler proposed to dispense with all allusion to a material basis of any sort for our currency, by having the government issue " certificates of value," each of which should certify that it was a real dollar; and we have heard that some one followed up the idea by proposing the issue of certificates of edibility, each of which should certify that it was a loaf of bread: such exceptions are, however, too rare to be counted. But we no sooner approach any measure looking to the attainment of this desirable end, than unity becomes diversity. We are first met by the Philadelphia school of political economists. They do not possess the faculty of making their ideas clearly understood by others, but so far as can be gathered from their arguments, they consider the end in view too excellent to be even sought for until a much more advanced stage of human progress is reached, and deem it, at present, much more advisable to move in the opposite direction. We then meet a class, including a large proportion of the business community, who fear the effect of the change on the business of the country; and then a yet larger class who do not see how specie payments can be reached; and yet another who would rather wait until we are better prepared for the change; and, finally, a class who think we had better grow up to specie payments. When the test question is reached, only a very small party is left in its favor.

It is difficult to say whether there is most to encourage or discourage us in what was done by Congress, or rather by the Senate, during the three days devoted to the discussion of the subject. It is, we believe, the first occasion on which any measure even looking to a restoration of our currency has actually come before either house of Congress since the war. This would seem to indicate that public sentiment is really advancing in this direction. But when we examine the debate in the Senate, we find so complete a failure to grasp the problem in its practical bearings, that it might seem almost hopeless ever to expect intelligent action on the subject in Congress. To make this clear, it is only necessary to show what are the most important practical questions involved in the problem.

Specie payment means the redemption by the government, in coin, of every legal-tender note of which the holder chooses to demand payment at the Treasury. To do this, the first step on the part of the government, and the step to which all others must be subordinate, is to provide the necessary coin to pay all the notes which are likely to be presented. To make intelligent provision for taking this step, and, indeed, to form any intelligent judgment whether it is practicable to resume at all, we must be able to form some rough estimate of the probable amount of greenbacks which will be presented for redemption. If they are all to be presented within a short space of time, a corresponding quantity of interest-bearing bonds must be thrown upon the market, and the problem is, in consequence, one of great difficulty, politically and financially. If, on the other hand, they come in so slowly that they can be absorbed by the surplus gold revenue of the government, the policy of resumption is so simple and easy that there is no valid excuse for deferring it a single day.

Therefore, the great practical question involved in any plan of resumption is this: contemporaneously with resumption can we adopt a policy which, while in no manner abridging either the right of every holder of a greenback to receive coin for it or the obligation of the government to pay it, shall reduce the amount which will be presented for payment to a minimum? This is the first test by which every proposed plan must be tried, because, until we have some idea, however vague, of what is involved in the plan, we can form no intelligent judgment of our ability to carry it out. Not only is this test the first one by which to try the financial feasibility of any plan, but also to try its political advisability. In fact, the great political difficulty involved in resumption arises from the fears of the business and moneyed classes that there will be a great withdrawal of greenbacks from circulation, to be followed by some sort of financial cataclysm. The smaller the amount of greenbacks presented for payment, the smaller the basis for these fears.

Keeping these considerations in mind, the unsatisfactory character of the Senate debate may be judged from the circumstances that not only was this first and main question not raised at all, but not a single speaker gave any evidence of seeing that it was involved in any proposed plan of resumption, or that the quantity of greenbacks to be redeemed could be in any manner affected by any financial policy the government might adopt, and that the principal measure proposed by the bill was one the effect of which would be to increase, to the largest possible extent, the amount of greenbacks which would be presented for redemption, and thus to make resumption as difficult as possible. Debate was almost wholly confined to the details of certain changes proposed in the National Banking law, and the question of the expediency of any definite plan for resuming specie payments was really not reached at all.

To make an intelligent survey of the field presented to our view by the proposal to resume specie payments, we have first to examine the facts and principles involved. By the public debt statements of the last few months, it appears that the total amount of United States legal-tender notes outstanding is, in round numbers, about $360,000,000, of which about $110,000,000 are held by the National Banks and the Treasury as the legal reserve against the bank circulation and deposits, leaving about $250,000,000 in actual circulation among the people. To this we are to add $330,000,000 of National Bank notes, making the total paper circulation of the country about $580,000,000, exclusive of fractional currency. By the policy of resumption this whole mass will become redeemable in coin, — the greenbacks directly, the bank-notes indirectly, because the holders can convert them first into greenbacks at the banks, and the latter into coin at the Treasury. Now, are there any principles or any facts of experience by which we can judge how much of this $580,000,000 is coming in for redemption? There are not, indeed, any mathematical rules by which a precise mathematical determination of the amount can be made; but there is a general principle, founded on experience, by which a judgment may be formed. This principle is briefly as follows: that the absolute value of the entire circulating medium of the country is nearly constant so long as the amount of business to be transacted does not vary; and when business increases, the aggregate value of the currency must increase with it. This principle is so frequently misunderstood

and misapplied that some explanation of it is necessary. W
use the term " absolute value " instead of " volume " of the cu
rency, because the latter expression is entirely deceptive. It i
commonly used to denote the entire number of dollars in circ
lation, but this would not properly express the sum total of th
currency. If one should compare the circulating media of En
land and America, and conclude that we had five times as muc
circulation as England because we had five times as many do
lars as England had pounds, reasoning on the supposition th
the pound and the dollar were the same, every one would smil
at the blunder. But the dollar of to-day and the dollar of fiftee
years ago differ as much in kind, if not in degree, as the doll
and the pound, and it is almost as serious a blunder to confoun
the two former as the two latter. The dollar of 1860, 186
and 1871 are as distinct as if they had been called by differe
names. The only way to compare them is by their avera
purchasing power. We thus find that, although the gold doll
when measured by the current standard, is worth some eighte
per cent more to-day than it was fifteen years ago, its absol
value is really less now than it was then, because it w
purchase a less average amount of commodities now th
then. Therefore, when we speak of the absolute value
the entire circulating medium, we mean its total purchasi
power, and not the number of dollars. By the principle
question, if we increase the volume of the currency, we sh
sooner or later diminish the purchasing power of each in
vidual dollar in the same proportion, unless the change
prevented by some counteracting cause. So, also, we can
permanently increase the purchasing power of each dol
without finding some outlet for the surplus currency wh
will then be in circulation owing to fewer dollars being ne
sary to transact all the business of the country on the n
basis.

We conceive that the principle in question has been frequen
misapplied through a misconception of what ought to be tak
as forming the aggregate circulating medium of the countr
It is customary to include under this term only what we ma
for the sake of distinction, call material currency ; namel
specie and circulating notes. But a little consideration wi

show that simple bank deposits should be included in the same category. If we inquire why it is that there is any limit to the total volume of currency which can be kept in circulation without depreciation, we shall find it to be because the money does not yield interest to the individual holder. The sum total of "money on hand," which one has at any moment, according to his own estimate, consists of two portions, first, bank-notes, coin, or legal-tender notes in his pocket or his safe, and secondly, funds which he has deposited to his credit in a bank. He always tries to arrange his business so as to have this sum total as small as possible, because it does not bear interest either in the safe or the bank. Now men almost universally think that money in the bank is of the same kind with money in the safe, only in another place. But the amount of bank deposits can be increased indefinitely, without any corresponding increase of circulating notes, by simply discounting the notes of individuals; and we know, as a matter of fact, that the bank deposits of New York far exceed the amount of notes either in the bank vaults or in circulation.

It follows from this that the comparative estimates of the amount of circulating medium in different countries and at different times, as usually presented, are quite deceptive, because the important item of bank credits is usually omitted from the aggregate. The following is a statement of the probable aggregate circulation of this country, either averaged through several years or outstanding at a particular time: —

First Period, 1854 *to* 1857, *inclusive.*

Average amount of bank-notes in circulation,	$ 200,000,000
" amount of bank deposits,	205,000,000
Amount of gold in actual circulation (estimated),	50,000,000
Total average volume of the currency,	$ 455,000,000
Average population,	27,000,000
Average circulation per head,	$ 17

The crisis of 1857 was followed by a great falling off in the volume of the currency, which, however, was made up again during the year 1858.

Second Period, 1858 *to* 1861, *inclusive.*

Average amount of bank-notes in circulation, ...	$ 18
" amount of bank deposits, ...	23
Amount of gold in actual circulation (estimated), ...	5
Total average volume of currency, ...	$ 47
Average population, ...	30
Average circulation per head, ...	

The estimated amount of gold currency is very unc
It should include only that held by individuals for daily

Thirdly, at the date of February 28, 1873.

Legal-tender notes in circulation, about	$ 24
National Bank notes, about	33
Bank deposits, ...	656
Total volume of currency, ...	$ 1,234
Population (probably), ...	41
Circulation per head, ...	

It appears that our nominal circulation per head of
tion is now eighty-five per cent greater than the average
the eight years which preceded the war. If we adopt,
modification, the principle of constant ratio between
and circulation, we should conclude that the average
prices was about eighty-five per cent higher now than
the war. But several causes conspire to change this
and, as a matter of fact, average prices have not ri
much. In a general way we may say that agricultural pr
excepting cotton, have scarcely risen at all, while manufa
of all sorts have risen from fifty to one hundred per cent.
average rise is probably not far from fifty per cent,
so, we have the difference between one hundred and fif
one hundred and eighty-five to be accounted for by
causes. Two causes, which conspire to make up this diff
are: —

1. The hope that the government may provide for
demption of the currency in specie or bonds, which mak
dollar a little more valuable than it would otherwise be.

2. The curtailment of the credit system. Credit b
great economizer of money, any cause which dimini
increases the necessity for currency proper.

The principle we have discussed affords the means of forming a judgment on the amount of legal-tender notes which will probably be presented for redemption. The premium on gold during the past four years has ranged between ten and thirty per cent. Hence, if the purchasing power of gold remains unaltered by the change of policy, which we have reason to believe, the purchasing power of the legal-tender dollar will be increased by a corresponding percentage. We may conclude, therefore, that probably between ten and twenty-five per cent of the total paper circulation of the country would come in for redemption,—the amount varying with the state of business, and especially of the foreign exchanges. When business is brisk, and gold is not demanded for export, the Treasury may disburse legal-tender notes without any coin redemption being demanded. Its stock of gold will then accumulate. When gold is wanted more than notes, the latter will be presented for redemption. We shall probably not be far from the truth in estimating that the sum total of legal-tender notes presented by individuals for redemption within the first year would range between fifty and one hundred and twenty millions. The stock of coin on hand and the surplus gold revenue would probably suffice to meet this demand, and, if it did not, the amount of bonds to be issued in order to meet all demands of this class would not be very great.

The most important conclusion to be drawn from the principles of currency alluded to is this: if there were no National Bank notes in circulation, specie payments might have been resumed long ago without any difficulty at all, because the legal-tender notes would all have been absorbed in the business of the country without sensible depreciation. There was no financial measure of the government during the war more completely indefensible on any sound basis than that of allowing private corporations to issue three hundred millions of paper money at the very time when the government had already been obliged to issue such quantities that its value had depreciated one half. One irredeemable currency would have been bad enough; two, the one floating on the other, are now far worse than either would have been alone. Had the banks been allowed to issue currency when they pleased, subject however to the requirement of redeeming it in coin on demand, the measu would not have been so open to criticism. We say this, not lament the past, but to enter our protest for the future again any power whatever, and especially private corporations such the banks, being allowed to issue any more currency whic they are not bound to redeem in coin, and to call attention the fact that, if the diminution of circulating notes, in a restor tion of specie payments, could all be made to fall on the ban notes, there would hardly be any need of the governme having to redeem any legal-tender notes for private indivi uals. It is hardly worth while to call attention to any especi way of doing this, because it may be regarded as political impracticable. In any contest between the interests of t public and those of the banks, it may be safely assumed th in the present state of affairs, the former will go to the wall.

In the preceding discussion we have considered only th portion of the legal-tender notes kept in circulation by indiv uals, or procured by them for the purpose of being converted in coin. We have now to consider the $115,000,000 held by t banks as part of their twenty-five per cent of legal reser against circulation and deposits. If the government offers pay these notes in specie on demand, without any restriction any alteration of its policy toward the banks, the latter mu be expected at once to exchange their legal-tender reserve f specie. This would at once throw a demand upon the Treasu which it would be entirely unable to meet. We may therefo regard it as an essential feature of any plan of resumption, th it shall include some provision which shall make it for the terest of the banks to keep their reserves in the form of leg tenders, rather than to demand their exchange into coin.

With these considerations before us, we are in a position examine intelligently the bill for the restoration of the curren reported to the Senate by Mr. Sherman from the Committee Finance. The original bill was introduced by Mr. Buckin ham, and we regret not having space to print it in full, wi notes on each sentence, as a curiosity of legislation. It d not contain a provision which was not either mischievous, in fective, or of doubtful or impossible construction, and its pa sage, even if the Executive could have made up his mind wh it required him to do, would have put specie payments further off than they are now. As reported back by Mr. Sherman, it was hardly recognizable, being shorn of its objectionable features, and so worded that the reader could judge what it meant. The first section, and indeed the only one which received intelligent consideration in the debate, made two very important changes in the National Banking system. The amount of circulation which the banks might issue was no longer restricted, and, so long as they redeemed their notes in legal tender whenever demanded, they were no longer required to keep a definite legal-tender reserve.

In a normal state of financial affairs, both these measures would be steps in the right direction. Under the present system the banks are prevented from adapting their operations to the wants of business. The great mass of their circulating notes is kept out at all times, and when more are wanted no more can be had. The banks always have plenty of accommodation when no one wants it, because their reserves then increase. They lower their rate of interest so as to keep the reserves down very nearly to the legal limit, so that when a call is made upon those reserves, they are immediately debarred from giving further accommodation.

Unfortunately, however, financial affairs are not in their normal state. In such a state all the National Bank circulation would be redeemable in coin. As matters actually stand, it is practically irredeemable; for the system of redemption in irredeemable paper, which we now have, is like anchoring a vessel at sea by fastening her to a large ship which is herself drifting unanchored. Both may go to ruin together. Redemption in coin, or something else having absolute value independent of the needs of the money market, is all that can, in the absence of restriction, prevent the banks from expanding indefinitely. Every bank can find borrowers for all the notes it can issue, and there is no serious danger of their coming back for redemption, because a legal-tender note now serves no purpose which a bank-note would not serve equally well.

The result of the proposed legislation would therefore have been, that whenever the government commenced to redeem its notes they would all have been presented for redemption, whether held by individuals or the banks. Those held by the banks would have been presented because, as we have already remarked, coin would have been more scarce than notes, and no inducement, direct or indirect, would be held out to induce a preference for notes. Those held by individuals would have come in because driven in by the now unlimited issue of bank-notes. It was, no doubt, in view of the difficulties which might thus arise that Mr. Sherman's bill, instead of providing for specie payment of the greenbacks, provided for their conversion into specie or five-per-cent bonds at the option of the Treasurer of the United States. Such options constitute one of the bad features of our legislation, and there was nothing in the law to prevent his furnishing the more valuable of the two to such persons or institutions as he wished to favor, while paying the less valuable to others. We suppose, however, that the understanding was that the least valuable should always be paid, and in this case the redemption would probably be made in bonds alone for some time to come. Under the law as it now stands, these bonds could not be used by the banks as reserve, and they would therefore be obliged to keep their legal-tender notes until the Treasury actually commenced redeeming in coin.

In favor of this system of redemption in interest-bearing bonds many sound arguments can be urged. The strongest objection to it is that it would be too much at the mercy of politics and too much affected by the state of the government credit, and this objection is serious enough to render its permanent adoption unadvisable. But it would be as much better than our present system as a poor security is better than none at all; and the conditions of its successful adoption are therefore worth inquiring into. The first and most necessary condition is, that the bonds shall bear sufficient interest to make them worth par in gold, because otherwise the currency based on them will inevitably depreciate. To attain this end the interest must be as much as five per cent. A lower rate may indeed answer a temporary purpose, if the amount of bonds issued is very small; but if made the sole basis of the currency, the depreciation will be nearly proportional to the amount by which the interest falls short of this rate. For instance, if the rate were only $3\frac{65}{100}$ per cent, the bonds would only be worth from seventy to eighty cents on the dollar, unless the principal were payable in coin at a not distant day. In other words, the premium on gold might rise to thirty or forty per cent without being checked by the conversion of notes into bonds bearing $3\frac{65}{100}$ interest.

Every plan for restoring the currency must give rise to so much discussion of minute details, the arrangement of which is triply complicated by the complexities of our National Banking system; and the interests to be provided for, or which will insist on being provided for, are so numerous and conflicting that we may well despair of anything effective being done until some higher view than that of merely regulating the currency is taken. Such a ground is afforded by the necessities of the national credit and the national honor. The legal-tender notes were issued ten years ago on the credit of the nation. The understanding was that they would be paid or converted into interest-bearing bonds worth par as soon as the emergency under which they were issued had passed. On each note the United States promises to pay the bearer the amount named on its face. What does this promise mean? This is a question which every voter in the land should ask himself, and, after careful reflection, try to answer. Is the government under any obligation to keep this promise? If it is, it is violating its faith every day it neglects to fulfil it. If it is not, the promises of our government do not mean anything,—a fact which the quicker the world finds out, the better it will be.

Two answers may be made to these questions. One is that the government is not bound to any specified time of payment, and therefore need only pay when it pleases. This is the same thing as saying that it will never pay at all. For it is always more convenient to defer payment till next year than to make it now; and if a time when the government is bound to pay is never to come, all talk about payment may as well be abandoned. A note payable without interest in one hundred years is worth very little, but payable only at the pleasure of the drawer it is worth much less, no matter how sound the drawer may be.

This question of payment of the public obligations expressed in the legal-tender notes is one which should be energetically taken up by the friends of the public credit. We should no longer allow ourselves or our opponents to close the eyes to the true state of the case. No denunciation on the one hand nor apologetic phrases on the other will cover up or change the fact that the legal-tender notes are either dishonored obligations of the government or mere pieces of waste paper, according as the promise to pay expressed on their face does or does not bind the government to fulfil it.

If we take the ground that the government is bound to tender payment for these notes without further delay,—and, as we have just shown, there is no middle ground between this and the ground that the promises of our government mean nothing and imply no obligation,—then no question of supposed expediency should be allowed to make us hesitate. In fact, however, the argument of expediency is wholly on the side of payment. The dangers to which the finances of the whole country are exposed by the present system, though entirely overlooked, are of the gravest character, while those feared by the opponents of specie payments are almost entirely imaginary. A fear of imaginary dangers, with a corresponding disregard of real ones, is indeed a common characteristic of imperfect knowledge under all circumstances. First among the imaginary dangers stands the fear that any cause which diminishes the number of dollars in circulation will be productive of disaster to the moneyed interests through a deficiency in the volume of the circulating medium. To show fully the entire groundlessness of this fear would require a consideration of the whole subject of money and exchange; we shall therefore only indicate briefly two reasons, one founded on the nature of the case, the other on experience.

If the question were one of "contraction" pure and simple; that is, contraction without reference to the wants of business, and without any corresponding appreciation of the dollar, except what might be forced by the contraction itself, the fear in question, though without sufficient foundation, would not be devoid of plausibility. But the simple offer of the government to pay coin or interest-bearing bonds for its legal-tender notes will not necessitate the withdrawal of a dollar of these notes from circulation. If any notes come in for redemption, it will not be because the holders are forced to bring them in, but because there is no use for them in business so profitable as that of the gold or bonds in which they are redeemable. Our calculation that one hundred millions, more or less, would come in for redemption, is founded on the probability that fewer of the appreciated dollars would be necessary to transact the business of the country. Should such not be the case, then none will come in.

The great advantage of specie payment, if the government will solemnly pledge itself to it, over enforced contraction, lies in this: that in the former case every one will know exactly what is coming, and business and prices will adjust themselves in advance to the new order of things, without shock, difficulty, or uncertainty; while in the latter case the future value of the currency will be as uncertain as ever. The effect of the former policy would probably be to ease the money market, that of the latter to tighten it.

As a fact of experience we may say that no one has ever brought to light an instance of any community being for any length of time without a sufficient supply of circulating medium to effect all its exchanges, for the simple reason that no definite quantity of such a medium is necessary for this purpose. A circulation of a thousand million cents could be made to effect all our domestic exchanges just as well as one of a thousand million dollars, and one of ten times the latter amount would effect them no better. Indeed, an irredeemable currency exhibits the remarkable property of becoming scarcer for the borrower the more of it is issued, so that every issue is followed by a stronger demand for more. Prices then go up faster than the volume of currency increases; every one who borrows hopes to pay in money still more depreciated by further issues, and the apparent rise in values fosters speculation, to carry on which requires more and more money.

While men thus allow themselves to hesitate before dangers which are purely imaginary, one of the gravest dangers that ever threatened the prosperity of a wealthy nation stares us in the face. It is one so difficult of comprehension when nakedly stated, that we shall have to employ an analogy. If a man should purchase the title to a farm in the West, for the support of himself in his old age, or that of his children after his death, he would want some assurance as to the size of the farm. If a considerable portion of the wealth of a community was invested in such title-deeds, knowledge of the quantity of land really bargained for would be of public importance. If it should be found that they had made the investments without this knowledge; if their deeds assured them of nothing but "one farm," without any specification of the size of it; if the latter was to be determined in the future, partly by legislation and partly by accident, and might be one acre just as well as a hundred, — we should wonder at their folly in so investing the funds which were destined for the future use of their families. Now, the place filled by the word "farm" in these deeds is precisely that filled by the equally vague word "dollar" in nearly all the moneyed associations of the country. A life-insurance policy, for instance, only entitles the heirs of the owner to a certain number of "dollars." It gives no assurance whatever of the real value of the dollars he is to receive, these being entirely at the mercy of Congress. If specie payments are resumed and adhered to, the dollar will have a definite value equal to that of twenty-three grains of gold. If the total volume of the currency is confined to its present limits, and the present restrictions upon bank deposits are kept up, there is no serious danger of a depreciation of the dollar below sixty or seventy per cent of its present value. If all restrictions upon the issues of currency and on bank expansion are thrown off, we have no assurance that the dollar of thirty years hence will have the purchasing power that the cent has now. Whenever irredeemable paper dollars are allowed to be issued, there will always be a demand for more, and the temptation to increase their number becomes stronger and stronger. If this temptation is yielded to, the number of dollars will go on increasing until they will be as plenty in every one's pocket as nickels are now, and small services will be paid for in ten-dollar bills, as they are now in ten-cent notes. This change need not seriously interfere with the transaction of current business, because, as we have already remarked, the exchanges of the country can be effected equally well with a given number of eagles, dollars, or cents. The sufferers would be the bond-holder, who would find that the principal of his hundred-dollar bond would only buy him ten soda-water tickets, and the heirs of members of life-insurance companies, who would find that a year's interest on their policies, instead of keeping them from want, would not buy a barrel of flour.

Under our present system we not only have no guaranty against this state of things happening, but several causes conspire to bring it about. In the first place, all that class who have to pay the dollars have a direct interest in bringing it about, and that class includes nearly all the influential financial managers. For instance, if the men who build a railroad on borrowed money can get the dollar reduced to one half its absolute value, they are thus relieved from half their debt. The men who employ the money of others in this and other ways, though not the most numerous class, are generally those able to wield most political power, including as they do the greater part of the business ability of the country. The class of investors, though far more numerous, and hence able to crush their creditors if they only knew how to do it, are prevented both by apathy and lack of business ability from organizing any efficient plan of resistance. Indeed, the policy of depreciation will be for the most part a popular one, because there is a corresponding nominal rise in the value of every kind of property, except bonds or other forms of indebtedness; and as there is no nominal depreciation in these, nobody is dissatisfied unless he has the acuteness to see through the cheat which is practised. The policy is destructive to national wealth for the same reason that it is popular. The imaginary increase of wealth which is so fascinating and the enormous sums to be made by speculation discourage further production and encourage extravagance, until the inevitable bursting of the bubble shows the true state of affairs. Then men mourn the loss of their imaginary wealth, which they believe to have been suddenly swept away by a financial cataclysm; while the fact is, that the real wealth of the country was going to waste during the whole period of depreciating paper money, its loss being concealed by the constantly diminishing value of the dollar by which all was measured.

Such is the danger which continually threatens us so long as the present state of things continues, and against which it is the bounden duty of all to call on Congress for protection. No measure can be too radical for the situation. The absolute repeal of the legal-tender law, with a withdrawal by the government of all pretence of making its irredeemable notes money, would be far better than following, as we now are, in the track of Russia, Austria, revolutionary France, and revolutionary America. At the same time, the danger may be greatly diminished without adopting any radical measure. If the government will not allow the issue of any more bank-notes, except on the condition that they shall be payable in coin on demand, and will, at the same time, make provision for honoring its own notes, the financial situation will be greatly strengthened. To do this in a way which, though imperfect, will answer the purpose, is very easy. Assuming that five-per-cent bonds, principal and interest payable in gold, will continue to be worth nearly par in gold, it is only necessary to provide that all holders of legal tender shall be entitled to exchange them for five-per-cent gold bonds after a date to be fixed. As the bonds may bear a premium, even in coin, it may be advisable to adopt that feature of Mr. Sherman's bill which leaves it optional with the Treasurer to redeem in bonds or coin. To allay the fear of those who think the notes may be wanted for the purpose of currency, it may be provided that all the notes thus received shall be kept in the Treasury as a reserve fund, to be paid out again in exchange for the bonds, whenever holders of the latter shall desire to part with them at a small discount, say one or two per cent.

We simply indicate this course as a perfectly safe first step, against which no sound objection can be urged. It is not worth while to enter into a detailed discussion of any plan at present, because the great want is not a plan but a determination to reach the end sought. Indifference to the latter is at the bottom of all the difficulty in deciding on any mode of reaching it. Let Congress and the public once waken to a sense of the national dishonor involved in allowing the promissory notes of the government to stand year after year without any provision at all being made to honor them, and to the danger of the system under which nearly all the bond-holders and life-insurance companies of the country will be compelled to accept these or

y other notes which any future Congress may see fit to au-
orize in payment of their claims, and the work of providing
emedy will prove very easy. And until a sense of the exi-
ncy of the case is reached, no arrangement of plans for re-
ring specie payment can be expected to receive any effective
pport.

ART. VII. — CRITICAL NOTICES.

— *Miscellaneous and Posthumous Works of* HENRY THOMAS BUCKLE. Edited, with a Biographical Notice, by HELEN TAYLOR. In Three Volumes. London: Longmans, Green, & Co. 8vo. 1872.

BUCKLE'S History of Philosophy, unfinished as it is, certainly marks
epoch in historical literature. It was the first attempt, on a consid-
able scale, to apply to the concrete treatment of historical phenom-
a the laws that govern these phenomena, and by this means to bring
story into the category of the exact sciences. Perhaps there is no one
these laws of which Buckle can be called, in any true sense of the word,
discoverer; although his demonstration of many of them is acute
d exhaustive. His peculiar merit is that he brought them over, so
speak, from the domain of abstract philosophy into that of literature,
d that he did this with a remarkable breadth and boldness of thought,
d in so agreeable and lucid a style as to attract and hold attention.
e was fortunate, too, in the time of bringing his book before the pub-
, — when the community, having become accustomed to the scientific
eatment of phenomena, and in a certain degree imbued with the
ientific spirit, was ready to see this treatment applied to the facts of
man experience. It only needed something for its opinions to crys-
llize about. The extraordinary sensation created by this book is
erefore fully justified by the effects which we may fairly ascribe to it.
hose views of the uniformity of law, the irresistible tendency of gen-
ral causes, and the importance of physical geography in human devel-
pment, which had before been confined to a few advanced thinkers,
ow passed into the public mind, and powerfully influenced even those
who refused to believe in a *science* of history. As accepted principles
f historical investigation, they may be said to date from the appear-
ance of this work.

The publication of Mr. Buckle's lesser writings, — most of which
have never seen the light before, — and of the materials that he had

been collecting for the purposes of his great undertaking, will be welcome, not only to his special admirers, but to all who are interested in historical study. The complete papers here given are in Mr. Buckle's most finished style, and contain discussions of permanent value. All of these three thick volumes, however, except a part of the first, are taken up with the miscellaneous materials — fragments and commonplace books — which he had been many years accumulating, and which will be found useful by all who desire to make a special study of any topic which came within Mr. Buckle's scope. We will especially instance the history of mediæval literature. But this publication has further value in illustrating his methods of work, and enabling us to form a better judgment, both of what he actually accomplished and of what he probably would have accomplished if he had lived. In reading his history, the first impression is of an erudition at once so wide and so minute as to show that there was nothing contracted in his sympathies or the range of his inquiries. In these fragments and notes we are brought directly face to face with his materials, and are in a condition to judge fairly whether there were any such limitations.

In the first place, it will be noticed that Mr. Buckle was a great reader, but not a scholar. It ought not to be expected that a book which deals with the philosophy of results rather than with the investigation of details should exhibit special scholarship in every field, or perhaps even in any one. The peculiar requisite for such a task as this is the power of judging accurately of the special labors of others; one need not himself perform these special labors. Still it is probable that no person can judge accurately of the special labors of others, unless he has himself done similar work in some one department; to deal satisfactorily with general results, one must know from one's own experience how such results are reached. Now here, we imagine, is where a University education would have stood Mr. Buckle in stead. He appears never to have engaged in the special investigation of details, but to have reserved himself for the higher work of reasoning from these details. Consequently, the first and most fatal defect in his reasoning is the inadequacy of his materials; not in amount, of course, but in character. It has been pointed out, we believe, by adepts in the natural sciences, that the treatment of these subjects is often unsatisfactory from lack of special knowledge. This is no less true of special historical erudition, in which at least it might be expected that he would be strong.

Nothing is so striking, on glancing over these pages, as the very second-rate character of many of the books read and cited. We do not forget that these commonplace books were made fifteen or twenty years ago, and that many books which were authority then are so ger; but this does not account for the whole deficiency. For exple: in 1856 a paper appeared in England which has completely olutionized the science of mythology. Mr. Buckle died in 1862; , although there are several extracts here upon mythological subts, Max Müller is not even mentioned; Mr. Prichard is the princiauthority upon this head, and the profound treatises of K. O. Mül- , Gerhard, Preller, Hartung, and others appear never to have racted Mr. Buckle's attention. In like manner Prichard is his hority for ancient Egypt; genuine Egyptologists, like Lepsius and ugsch, he takes no notice of. Now nothing is more certain than .t if a person is not himself a special student and authority upon the jects of which he writes, he must at any rate know how to find and those who are authorities.

Real scholarship — a Cambridge or Oxford training — would have ed Mr. Buckle from the wasted labor of copying out pages of worths matter into these note-books, either facts that every scholar ought be supposed to know, as the derivation of *Ostracism* (No. 220), or erile derivations, such as that of *Paris* (No. 81). It is incredible it an historical student should take pains to note down the absurd rivation "from the son of Priam, king of Troy," when the transfortion of the name of an ancient tribe into a modern city is so common d well-understood an occurrence as to be almost a rule: Treveri o *Treves*, Turones into *Tours*, Remi into *Rheims*, Parisii into *Paris*. is, by the way, remarkable how very little use Mr. Buckle makes of y but English and French writers; he read, we are told, half a zen languages, but we find very few traces of them in these "Comnplace Books."

So much for the character of the materials. As regards their scope, ere are two or three wide fields of inquiry directly connected with subject, in which he appears to have taken no interest. *Institums*, for instance, he hardly notices; nor that wide class of subjects iich Mr. Maine's and Mr. Tylor's books have made familiar to glish readers. To be sure, both of these have written since Mr. ickle; but the subject of primitive thought and customs, it would em, could not fail to engage the attention of a philosophic student of ilization more than we find traces of here. We have already spoken mythology, — a branch of this subject which was well developed in lifetime, but on which we find only a very few notes of very little lue.

This leads us to the limits to which Mr. Buckle, unconsciously, no ubt, confined himself, and within which he did excellent service. By history of civilization he meant a history of modern society. He took society as he found it in the sixteenth century, with very little and very inadequate study of the causes that brought it to that state. Starting from this, he followed out its development in the three centuries of modern history with remarkable power of analysis and breadth of view. Broad as it was, however, his view was not quite complete. Institutions, as we have said, possessed little interest for him. The entire range of events to which history usually confines itself too much he sedulously neglects, and flies into the opposite extreme of underrating their importance. But surely courts and camps, organized institutions and formal statutes, although they are not the sole objects worthy of attention, as our ancestors thought, are yet a part of society, and a very potent part.

This one-sidedness, a reaction from the one-sidedness of earlier historians, is manifested especially in two directions, — in insisting overmuch upon the influence of general tendencies, to the exclusion of special and personal agencies; and in the exaggerated importance ascribed to physical as contrasted with moral and intellectual considerations. It is not that Mr. Buckle consciously ignored either personal agencies or moral considerations; he insists as strongly as one could wish upon the practical superiority of the higher part of man's nature; and again, no small part of his work — and perhaps the most generally interesting — is devoted to an admirable analysis of the character and abilities of distinguished men, and the determination of the amount and kind of influence that they exerted. Nowhere does there exist a finer and more generous tribute to John Stuart Mill than in the review of his "Liberty," in the first of these three volumes. Nevertheless, Mr. Buckle is perhaps the foremost advocate of the theory that history is subject to laws as rigid as those which govern physical phenomena, and that the ablest man is impotent against the great movements of the race. Undoubtedly we must admit in the abstract that these human intellectual influences are ultimately subject to law; but among these influences is that mighty power which we call, whether rightly or not, *Free Will*, — a fact which we cannot go behind, and the influence of which in human development has been incalculable. Perhaps the time will come when this, too, will be sifted and analyzed, and every event of history shown to be produced by the operation of exact laws; but at present all that we can say is, that at various epochs in the world's history there has appeared among mankind an exceptional nature, which has excited an extraordinary influence upon its generation, and thus upon all future time. It is merely begging the question to say that these heroes of history appeared when the world was ripe for them, and that if they had not done the work somebody else would. There is no more fallacious belief than that the man will come when the need is; the truth is—and it is one of the saddest truths of human history—that it is very seldom the Luther, Washington, or William the Silent appears when he is wanted. Mr. Buckle says, "Whoever is accustomed to generalize, smiles within himself when he hears that Luther brought about the Reformation; . . . . that William III. saved our liberties, etc." It certainly seems to us, looking back now, that even without Luther the advance of human thought would have forced the Reformation; but, so far as we can see, circumstances were ripe for reform a hundred years before, and even in the sixteenth century any reformer of less vigorous genius than Luther must have met the fate of Huss. Even as it is, the advance of human thought was effectively crushed in Italy and Spain. Again, how do we know that the coalition that expelled James II. in 1688 could have held together a day but for the one man, William of Orange? Mr. Buckle's words would seem to mean that any nation that needs liberty will be sure to have it.

On the other point Mr. Buckle admits in theory the superiority of moral influences, but uses expressions strangely inconsistent with it, when it comes to the special case. "It may be broadly laid down that neither in the sixteenth century nor at any other period has any great revolution been permanently effected except with the view of remedying some palpable and physical evils" (Vol. I. p. 106). And more positively, "The history of the world shows that there has never been a revolution except when the people were groaning under the burden of taxation" (Vol. III. p. 633). Now Mr. Buckle did not really mean this, for he knew perfectly well that some of the greatest revolutions of history were wrought under the influence of religious excitement; and that, under this excitement, a community will submit to any physical suffering and deprivation without a word of complaint. But, while he knew and admitted this truth, his temper and turn of thought led his mind to dwell almost exclusively on physical causes. We find, too, in these passages, an illustration of an occasional habit of overstatement, which is, perhaps, his only fault of style. When he wishes to present a point very strongly, he permits himself hard and exaggerated expressions, which fit the mood he is then in, but which do not represent his real opinions. When, without qualification, he calls Mr. Justice Coleridge "an unjust and unrighteous judge," and dwells upon his "cold heart and shallow understanding" (Vol. I. pp. 60 and 62), he repeats precisely the fallacy that the Abolitionists were guilty of when they denied that a slaveholder could have any virtues. Nor would he in any other connection have said of Irenæus, Tertullian, and Cyprian that their "antiquity was the only possible claim they could have to respect" (id. p. 189); nor have called the great cathedrals of Europe "trifles" (id. p. 110).

In short, Mr. Buckle is an intolerant writer. He starts dogmatically from the position of a democrat and secularist of the nineteenth century, — a position with which we have no fault to find, — and relentlessly applies the standard of this position to earlier times. Now it is perfectly legitimate, in a history of civilization, that a writer should emphasize with sympathy whatever in an earlier age was working towards the result which appears to him right and desirable; and, on the other hand, should point out facts which are unfavorable in this regard. But to do this well, one must be able to appreciate and sympathize intellectually with opinions and tempers with which one does not agree; and this Mr. Buckle cannot do. For instance, in the fragment on Queen Elizabeth, he has scraped together whatever he could find in disparagement of the clergy of that time, till one might believe there was not a particle of virtue or ability among them, which is what Mr. Buckle would have been glad to believe. Again, it is a very superficial explanation of the Dark Ages to say that they were caused by the Christians shutting up the schools of Greece (Vol. I. p. 170), and the remark displays a judgment as blind to the real good wrought by the Church of that age as it is unjust in holding it responsible for evil.

By reason of the deficiencies here pointed out, we doubt whether Mr. Buckle, even if he had lived, would have written *the* history of civilization in England. The fragment that he published is of great and permanent value as an exhaustive discussion of certain aspects of human progress, the bearings of which upon the general history of mankind had never until then been thoroughly analyzed. Perhaps this fragment contains the principal general philosophy of the subject; although the detailed application of his theories would have possessed great value, and we as a people shall never cease to lament that he could not carry out his purpose of living among us long enough to subject our institutions and national tendencies to his masterly analysis. From a very different point of view from De Tocqueville's, he would have reached conclusions probably no less acute and instructive.

It may be worth while to quote a fine passage in which the doctrine is laid down, which, as we have said, he did not always recognize in practice: "In England, physical science not only *drew off* men from history, but gave them a *wrong pattern* to write it by. They said that in physics external and visible phenomena were everything, and they fancied the same held good in history. They did not know that the most important facts in history are invisible. The external world is

›verned by *acts*, the internal world by opinions. In physics actions ·oduce their effects, whether they are known or not; in history they ıly produce their effects *if* they are known. Every great historical ıvolution has been preceded by a corresponding intellectual revolu- ›n" (Vol. I. p. 213). On page 119 we find a very neat expression ' his habit of thought: "The rebellion of the Stuarts against the ıthority of the nation."

The Biographical Notice contains a very interesting account of Mr. uckle's life and habits. The intellectual habits that produced so powful a book and so remarkable a style deserve the careful study of all aders. We will only add that Messrs. Scribner, Welford, and Armrong have imported a special edition of this work, in recognition of e profound impression made in this country by the History of Civiliıtion.

— *The Issues of American Politics. A Discussion of the Principal Questions incident to the Governmental Polity of the United States, embracing the Subjects of Amnesty, Force Legislation, Civil Service, Suffrage, The Centralization of Power, Our Money and Currency, The Public Debt, The National Banking System, Reconstruction, The Constitutional Amendments, Tariffs, Taxation, Protection and Free-Trade, and other important Topics. An Exhaustive Treatise upon American Politics.* By ORRIN SKINNER (of the New York Bar). Philadelphia: J. B. Lippincott & Co. 1873.

MR. SKINNER's ambitious title-page is perhaps a sufficient criticism ' his work, for it will give the reader as good an idea of the book and ' the author's characteristics as anything we can write. His confiınce that in a single volume of five or six hundred pages he has :hausted the science of government, indicates certainly a sanguine mperament, but hardly a proper appreciation of his subject, and posbly excuses our suspicion that he has not yet reached that period of 'e among whose chief advantages, according to the Rev. Homer 'ilbur, is this: "That we attach a less inordinate value to our own ·oductions, and, distrusting daily more and more our own wisdom rith the conceit whereof at twenty we wrap ourselves away from ıowledge as with a garment), do reconcile ourselves with the wisdom ' God." He tells us that his book was suggested by the fact that ithin the last twenty-five years "American literature in a *single* work ıs not attempted to solve the issues of American politics," and that it as written to supply this deficiency. Did it never occur to him that › one man can "solve" those issues, and that of the able men who in all ages and countries have considered the problems of government, he is the first who has undertaken to leave no room for further discussion? Perhaps "American literature" was less in fault than he fancied.

We will not say that a book no larger than Mr. Skinner's might not be written which would throw much light upon our political difficulties, but we will say that upon his plan it would be impossible. He has made a list of questions decided and to be decided, has discussed each more or less at length, and has announced his own conclusions, which are generally what we are taught to consider orthodox. He believes in specie payments, amnesty, civil-service reform, intelligent suffrage, and a protective tariff, and he supports his belief by arguments which have stood the test of time and have lost nothing but their freshness. He sees the evils which exist and thinks they should be cured, but he has not the insight which enables the statesman to distinguish which is the disease and which the symptom.

To discuss the questions which our author has assumed to exhaust requires, in the first place, such an acquaintance with history as will enable the student to understand what difficulties have presented themselves to the nations which have preceded us, what expedients were devised to meet them, whether they succeeded or failed and why. This is necessary, that he may learn to distinguish between the vices inherent in human nature and the vices which belong to particular systems of government. Certain causes have always produced the same effects; certain tendencies of mankind must be met and controlled by any government; and he who would deal with politics must know what those tendencies are, if he would not attribute to a system ills which are the inheritance of the race. Otherwise, he is likely to fall into the error of those who fancy that the abuses and follies of their day have never been known before in the world's history, and are directly attributable to the infamous conduct of the party in power. A study of history teaches that nothing in the way of sin or folly is new under the sun; that the world even in the palmy days of our ancestors was just as bad as it is to-day, and that it will probably continue in its career of wickedness till human nature is changed or "developed,"— an effect which no form of human government has yet been able to produce.

In the second place, there is needed a familiarity with the history of our own country which very few possess; that what the student has learned from the history of other peoples may be modified properly when he seeks to apply it in dealing with a nation whose character and whose traditions present conditions so peculiar and so different from those under which the problems of government have hitherto been iscussed. And, in the last place, our present position must be studied ost carefully. We are not called upon to govern a homogeneous race like interests and like prejudices. The statesman who would reform system must consider not only what is desirable, but what is possible; d in our case he must estimate the force of a thousand currents of in-uence; he must encounter and control the prejudices of race, of color, religion, of locality, of social position, and work his way forward inch y inch. The conditions of successful government are more complex ere than elsewhere, for the vast extent of our territory and the variety our interests afford more chance for discussion, while the absence any powerful enemy on our borders removes that motive for union which the governments of Europe have so often appealed success-lly, and for which our only substitute is the good sense of the people. here is scarcely a question that to-day agitates the various nations f Europe which in one form or another does not now or will not soon emand attention from us; while we have some peculiar to ourselves. Vhen we consider the infinite perplexities to which these questions ust give rise, and remember the Chancellor Oxenstiern's *Vide, mi li, quam parva sapientia regitur mundus*, we can almost forgive those rophets of plagues who see in our future nothing but disaster: with hom, however, we have the least possible sympathy. That the nation ill continue to exist and to prosper, and that a remedy for the evils of -day will be found, we do not in the least doubt. The troubles which reatened to overwhelm our ancestors seem trifles to us; our moun-ains will be molehills to our children, and they in their turn will have buses to correct. Evils are sent into the world for us to fight gainst, not to cry about, and the more serious they seem, the harder ght we must make.

In view, however, of the difficulties which we must encounter, and the isdom which our rulers must have if they are to deal with them suc-essfully, it behooves us to consider whether our present method of electing those rulers brings forward the proper men. We need in laces of trust the best intellect, the most thorough education, the most nyielding honesty, the strongest sense of duty; and that, with a few xceptions, our public men do not possess these qualifications, the last winter in Congress, and the scandals which make us blush daily, have onvinced all thinking men. It is obvious that until we get a Congress nd an Executive who will be governed in the determination of public uestions by considerations of public rather than of personal or party interest, it is vain to bring these questions forward for discussion; and therefore it is that the issues of American politics are to-day reduced to one, and that, the question how we shall reorganize our system of selecting representatives in such a way as to secure at least a fair representation of each constituency, if not a choice from its best men. Our troubles arise in great part from the difficulty of adapting a representative system to large constituencies. That which was easy in the town-meeting epoch of our history has become difficult. When the constituent body attains the size which it has with us, when it embraces men of associations and pursuits the most dissimilar, so that mutual acquaintance and personal conference among its members are impossible, it is clear that before an election for a representative can be had, some method of preliminary consultation must be devised to unite those of the same opinion, that there may not be as many candidates as there are voters. The plan which we have adopted to accomplish this result, that of caucus and convention, is liable to the gravest objections. In theory it is excellent, for it simply extends the representative system by subdividing the constituent body, and getting the opinion of each fragment through its representative chosen to express it; but in its practical working it has so far been perverted that, instead of being used to ascertain the wishes of the constituency, it is employed almost always to direct, and often to defeat them; and this abuse is the root of many evils.

In the first place, our politicians are organized and disciplined like an army, with the rules of Freemasons. The influence of the President can be felt down through the various grades of officials to the ward-room wire-puller who is charged with the manipulation of the primary meeting. Each superior relies upon his next inferior for help in retaining his position or securing promotion, and each inferior who has organized the conventions of a district or State in that superior's interest expects fitting reward for his services. That each officer may have the means of giving this reward, the offices of the government have been apportioned, and each rank in the political army receives its share. A public sentiment has grown up which permits, if it does not approve, the use of patronage to keep men and parties in power, which allows public employment to be made the reward of political service, and which sees without disgust the people's servants, in the struggle for preferment, postpone the public interest to their own, and treat their offices as a means of securing their own advancement rather than as a trust to be administered for the general good. In consequence, the whole government is conducted on a gigantic system of bribery. Within a single year we have seen a bold and almost successful attempt to carry the State of Massachusetts in favor of a gubernatorial candidate when a large majority of the party which that candidate sought to lead was bitterly opposed to him. We have seen a candidate for the Presidency receive he unanimous vote of a large convention, whose constituents were as much divided as their so-called representatives were unanimous; and nally, we have seen another convention fairly captured and made to ominate a man for whom scarcely a handful of those whom that conention represented was at first found willing to vote. Yet if General Butler had received the nomination of the Republican Convention, he would have been elected, although the means used to obtain the nomiation would have been perfectly understood and generally condemned, ven by those whose votes would have elected him. In the second case, lthough large numbers of the best Republicans were dissatisfied with General Grant, that dissatisfaction could not obtain a single repreentative in the nominating convention, and no one was found to dispute ts decision. In the last case, though all who originated the Cincinnati Convention felt that the nomination of Mr. Greeley was the result of a mere trick, and made their whole movement ridiculous, they bowed o it as to the *fiat* of God.

If these are the results of our method, is it not obvious that it is radically wrong? It is useless to answer, that the abuses spring not from the system itself, but from the willingness of good men to neglect heir political duties. True statesmanship deals with men as they are, not as they ought to be. If our method produces bad results from any cause, whether it be from the political apathy of the average voter or from its own inherent defects, it should be abandoned. It is vain to say that we ought to retain it, because it would work admirably in the Society of the Cincinnati. Nor is this the worst of it. While this system is retained, matters must grow steadily worse. The best men will withdraw more and more from politics, since they will not resort to the wire-pulling and corruption used by their opponents, and cannot succeed without them. Public sentiment, already much blunted, will grow more indifferent to abuses, and they will multiply in consequence. When we remember how many respectable people saw nothing to criticise, and even much to approve, in the course of Mr. Ames and his associates last winter; that it was a question in which the country at large took little interest, whether the purchase of a seat in the United States Senate by wholesale bribery should be ratified by the Senate or not; that the United States is represented abroad by General Sickles in the country with which our diplomatic relations are most delicate, and at home by Collector Casey in the State whose domestic affairs most embarrass the government, and though both officers are recognized as discreditable, there is no public opinion strong enough to force their removal or even to prevent the latter's renomination, — we shall be forced to confess that the public conscience needs to be educated; and if we except a few, we shall look in vain among our public men for proper teachers. Unless we bestir ourselves speedily, the government, which Mr. Lincoln called a "government of the people by the people and for the people," will be supplanted by a government of the people by the politicians and for the politicians. Civil-service reform strikes at the root of this evil, for it takes from those who uphold and profit by the present system the sinews of war. Without the patronage which he now wields, the senator or representative would have no reward to offer for faithful service, and would lose the means of packing caucuses and managing districts. It would take away at once the object for which and the means by which our present rulers seek and obtain office. Without the spoils, what avails it to be victor? And we hope that those who advocate this reform will be content with it in the first instance. In support of it they can unite all honest men, sooner or later. If, however, they endeavor to organize a party which shall at the same time advocate free-trade, or support any measure upon which honest men are divided, they will introduce an element of discord, and will take from their own strength while they give their enemies fresh opportunities to defeat them. Perfection cannot be attained in one campaign.

We have left ourselves little space to discuss Mr. Skinner's book in detail, but we cannot help regretting that, with the multitude of living issues which pressed upon his attention, he should have devoted so much of his time to the question, whether the recent constitutional amendments are constitutional. The proposition that a constitutional amendment is unconstitutional if it amends the Constitution seems hardly worthy even of the qualified support which it receives from him. Nor can we pass without notice the measures by which he proposes to effect a reform in our civil service, though to discuss them in detail would require more space than we can give. The propositions are twelve in number. Some are good, others are fairly debatable, but the most belong to a class of expedients very fascinating to theorists, but which indicate a radical inability on the part of their inventors to comprehend the methods by which men are governed. Such is his proposition that Congressmen should be forbidden by law to recommend candidates for office. This plan was first suggested by Mr. Trumbull, but the bill which he introduced for the purpose was probably intended merely as a peg on which to hang a speech against the abuse of Congressional influence; for we cannot believe that a man of Mr. Trumbull's ability ever seriously advocated it. Our author says that the first objection to it is yet to be raised. We would suggest as one objection that no law could prevent it, unless the President made it his business to turn state's evidence. Another is, that it is undesirable to prevent the President from consulting the eminent men who ought to be found in Congress as to his appointments, particularly when they must in the majority of cases be made from among men whom he does not know personally, and as to whose qualifications he can only judge by what he is told. If, because Congressmen recommend bad men, we take from them the right to recommend, why not, on the same principle, forbid them to pass laws, because they sometimes pass bad ones? Or if, following this proposition to its logical result, we take from our officers, legislative, executive, and judicial, every power which can be abused, Mr. Skinner must devise some method for governing without power. Indeed, it is rather incumbent on him now to suggest some plan for appointing the forty-eight thousand officials of whom, according to his calculation, our civil service is composed. If the President and secretaries are to act only upon their personal knowledge, they will naturally be confined to the circle of family and friends, appointments from which lately have not met with general approval. If they are to act upon advice, should they pass over the men whom they know, who are accredited to them by the choice of the people, and who are responsible to the people, and consult men whom they do not know, who have no business to advise, and who are not responsible? The question answers itself. But in justice to our author we should say that he meets this difficulty by a plan as simple as original. He would have all officials, except Cabinet ministers, foreign ministers, heads of bureaus, and local officers like postmasters and collectors, apportioned among the several States, according to their voting population; and then in each State a list is to be prepared like a jury list, upon which the name of every voter who can furnish the diploma of a respectable academy is to be enrolled; then three times as many names as there are offices to fill are to be drawn, and from these names the appointing power is to select the required officers, though how the selection is to be made we are not told. The merits of the plan have strongly impressed its author, and to his work we must refer the inquiring reader who seeks to know them. The arguments against it may be reserved till such time as the question of its adoption becomes an issue of American politics. Unable to give Mr. Skinner's whole plan, we have offered these features of it as illustrations of his method. In our judgment he cannot be encouraged to hope for its speedy adoption.

It is impossible, in concluding, to agree with the eminent critic who, we are informed in the publishers' advertisement, has pronounced Mr. Skinner's work "as regards purity of logic and beauty of rhetoric almost faultless." His use of words, his construction of sentences, and [illegible] his theoretical flourishes are, to say the least, peculiar. He tells us (and italicises the proposition) that "the magnitude of any enterprise is measured by the versatility of others which surround it, and this last [illegible] in a great degree, by immediate territorial area," which is interpreted, if at all, by the next sentence: "Factures of hand or machinery will best flourish by the side of extended agriculture, and *vice versa*." This word "facture" possesses for him a singular charm, and we find [illegible] "facturing," "facturer," and "factured" constantly repeated. He regrets that in the United States "the simple semblance of honest manhood, however ignorant, is the only fitness required for a full exercise of the suffragan power." This will be new to many who have fancied that other qualifications were considered in the election of our bishops. A minority of voters becomes with him "a suffragan minority," and [illegible] we are informed that "we cannot universalize the incongruous." We do not remember to have met with a book so filled with absurd misapplications of words. Mr. Skinner tells us that the style of his essays is intended to be "plain, clear, and unostentatious," the subject being such, he continues, "as to preclude all play of the imagination, flights of fancy, or figures of rhetoric." That he is not without rhetorical power, however, he lets the reader see by flights like these: "The exact date, however, of the inauguration of a metallic currency, — the period when man first summoned the glistening metal from its hiding-place in the inner earth, and by the name of money made it a crystal messenger to lay the foundations of commerce, and thereby wed the human race to the cause of civilization, — slumbers among the mysteries of the unrecorded past." Of the business community we learn that "their entire life in company with that of common humanity is but a game of chance, from the opening door of the cradle to the closing portal of the grave. Mystery envelops their every step, and their very existence is shrouded with uncertainty." Speaking of the voluntary consent by which in a democracy the people obey their rulers, the author says: "It is no insult to Omnipotence to say that the perfection of this compromising ability constitutes the dividing line between human and superhuman effort. It is the conclusive proof that man partakes of the image of his Maker." The time when mankind first began to dig is described as the era when man "by the donation of labor elected himself to a peerage with the forces of nature in persuading a responsive earth to augment its natural products and disseminate its hidden wealth." Similar examples of hazy thought and false rhetoric might be given to an unlimited extent. They annoy the reader on every page, and indicate what everything in the book leads us to suppose, that it is not the result of careful thought, but a hasty production written to supply a temporary demand.

To do Mr. Skinner justice, however, he does not despair of the Republic, and his influence, so far as it goes, is on the right side. Some parts of his book, as, for example, the chapter on Force Legislation, are valuable, but it cannot be said that he has contributed much toward what he is pleased to term the solution of our political issues.

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3. — *The Romance of the Harem.* By MRS. ANNA H. LEONOWENS, Author of "The English Governess at the Siamese Court." Illustrated. Boston: James R. Oogood & Co. 1873.

OUR readers will recall Mrs. Leonowens's very entertaining book, "The English Governess at the Siamese Court," in which she gave the public the account of her residence in that remote and generally unknown part of the world, and they will gladly welcome another volume which throws light upon the condition of this singular people before it follows other countries in the adoption of the black coat, high hat, and common law of England. The author's experience was most exceptional, living as she did in the most secluded part of an Eastern despot's home, and possessing over him and the unhappy women of his harem a very great influence, which she seems to have exercised to very good purpose. The condition in which the women lived, their dependence upon the favor of a jaded voluptuary, the suddenness and severity of the laws, all combine to produce the elements of every sort of tragedy; and we find in this volume nothing but the grimmest tales, which throw the inventions of our civilized romancers far into the shade. Most obvious, of course, is the pitiableness of it all, of the misery which the degradation of women surely entails; but there is found a certain relief from this in the many instances Mrs. Leonowens gives us of the simplicity, fidelity, and earnestness which held their own alongside of great corruption. We suppose that to their incomplete civilization is due so much of the singleness and the lack of complexity of their characters; they are, so to speak, more nearly heroic, by which we mean to indicate their difference from the many-sidedness of over or highly civilized people, whose minds are shaped by so many various influences. It is this quality which gives the stories the author has collected their great solemnity; all the incidents have a completeness; they concern the whole lives of the actors in a way that is not so often seen in our lives, with their manifold, varying, interwoven conditions. What, for instance, could be imagined more truly tragic than the first story, that of Tuptim, the poor girl who, after the fashion of the country, had been brought among other offerings, such as silk, spices, silver and gold, curiosities and valuables of every kind, for the king's acceptance? She was a beautiful girl, but even when she had attracted the attention of the king, she was disobedient and discontented. From Mrs. Leonowens she learned enough to be able to write in English characters the name, "Khoon P'hra Bâlât": this she said was the name of the favorite disciple of Chow Khoon Sah, a high-priest, and that he sometimes preached to them at the palace. A few days later Mrs. Leonowens learns that Tuptim is in prison, and that she is to be tried for escaping from the palace and flying, in male attire, to the young priest whose name she had learned to write. Not only was that in their eyes a terrible crime, but that of which the priest was considered guilty, the breaking of his vows, was thought most monstrous. At the trial Tuptim said: "I know not why, but, when I found myself outside of the palace walls, I went straight to the temple of Rajah Bah ditt Lang, and sat down at the gate. Towards evening, the good priest, Chow Khoon Sah, came out, and, on seeing me, asked why I sat there. I did not know what else to say, and so I begged him to let me be his disciple, and live in his monastery. 'Whose disciple art thou, my child?' he asked. At which I began to cry, for I did not wish to deceive the holy man. Seeing my distress, he turned to P'hra Bâlât, who was following him with other priests, and bade him take me under his charge, and instruct me faithfully in all the doctrines of Buddha. Then P'hra Bâlât took me to his cell, but he did not recognize, in the young priest I seemed to be, the Tuptim he had known in his boyhood, and who had once been his betrothed wife."

"At this part of Tuptim's recital" (Mrs. Leonowens continues) "the women held up their arms in profound astonishment, and the men judges grinned maliciously, displaying their hateful gums, red with the juice of the betel-nut. . . . .

"'P'hra Bâlât, whom you have condemned to torture and to death, has not sinned. He is innocent. The sin is mine, and mine only. I knew that I was a woman, but he did not. If I had known all that he has taught me since I became his disciple, I could not have committed the great sin of which I am accused. I would have tried, indeed and truly I would have tried, to endure my life in the palace, and would not have run away. O lady dear! believe that I am speaking the truth. I grew quiet and happy because I was near him, and he taught me every day, and I can say the whole of the Nava d'harma (Divine Law) by heart. You can ask his other disciples, who were with me, and they will tell you that I was also modest and humble, and we all lay at his feet by night. Indeed, dear lady, I did not so much want to be his wife after he became a p'hra (priest), but only to be near him.'" Then, after speaking of the way in which she had been arrested, she repeated the assurances of her innocence, but in vain. She is about to be beaten, but, at Mrs. Leonowens's instance, appeal is made to the king's clemency. He is at first gracious, but on that very afternoon she sees the scaffolding put up opposite her windows, on which Bâlât and Tuptim are to be put to torture. Bravely enduring all its horrors, she simply said: "I have not sinned, nor has the priest, my Lord Bâlât, sinned. The sacred Buddh in heaven knows all." The next day they were burned at the stake. A month later, however, the king repented of his severity, and had two monuments erected on the place where these two people suffered, each bearing the inscription, "Suns may set and rise again, but the pure and brave Bâlât and Tuptim will never more return to this earth."

Not all the stories are as terrible as this, although all are solemn. In the story called "The Favorite of the Harem," a poet has a subject ready made to his hand. It will be remembered by those who read it in the "Atlantic Monthly" as an account of the favorite who at the very time she first attracted the king's notice, at a play in which she was acting, fell in love with a young nobleman in the king's suite. Later she corresponded with him, one of her women, named Boon, being the letter-carrier. Finally, however, one of the letters, evidently written to a lover, was detected, and both the women were thrown into prison. Then Choy (the *quondam* favorite) learns from Boon that this lover of hers was her woman's husband, from love for whom she had sacrificed herself and given him all the aid she could in his intrigue with Choy. The next day they are both put to torture to discover the name of the lover. Boon is firm to the end; but Choy, unable to endure its terrors, reveals the name of Boon's husband. He and his wife were sentenced to death, while Choy lived in unceasing remorse.

As a relief to these sad scenes, we have some anecdotes from the school-room. There is one as follows: Some ice having been brought to the king from Singapore, Mrs. Leonowens took advantage of the opportunity to tell her scholars, the women of the harem, about snow; they all were angrily incredulous, and one, Hidden-Perfume, said, "Please do not say that again. I believe you, like my own heart, in everything you have taught me, but this sounds like the story of a little child who wishes to say something more wonderful than anything that was ever said before." This was the same woman who called herself Harriet Beecher Stowe; and of her Mrs. Leonowens gives us a touching account.

We hope that our readers will be able to judge from our extracts the interest and the rarity of such a book as this "Romance of the Harem." Those who take it up will find it a most impressive volume, one that is by no means merely entertaining. It lifts the veil from what was unknown ground; all who care for more than the commonplaces of many travellers' gossip will be glad to read it.

4.—*Literature and Dogma. An Essay towards a better Apprehension of the Bible.* By MATTHEW ARNOLD, D. C. L., formerly Professor of Poetry in the University of Oxford and Fellow of Oriel College. Boston: James R. Osgood & Co. 1873.

THE writings of other than theologians about the Bible have seldom been anything else than either loud-mouthed abuse, which has generally borne its condemnation on its face, or, in later times, the contemptuous utterance of scientific men, who may have been civiller in form, though at heart they have been equally hostile to the book, so that now there is but little chance of unprejudiced hearing for a man who brings a new test to its examination. Theologians and students of science, of course, with numerous exceptions among both classes, are not eminent among men for their desire thoroughly to understand the position of those who criticise them, or patiently to seek a ground of truth on which dissentient opinions may possibly meet. In this respect the Church is at least consistent; it has withstood a great deal in its time, and so need not be too much perturbed at new attacks; and the dogmatism of science, offensive though it be, is a very natural accompaniment of sudden and marvellous success. But if there is nothing miraculous in the faults of human nature, they are all the more to be regretted on that account, and very much more if the result in the case of the book before us should be that contempt is hurled upon so serious and painstaking an attempt to give expression to the sort of thought which lies between theological and scientific dogmatism as is found in Mr. Arnold's essay. It is to be remembered that it nowhere pretends to be an authoritative assertion of absolute truth; it is only an attempt to give utterance to a deep religious feeling, which finds itself repelled by what to many seem too hard formulæ for the hungry heart to receive. Of course the book is strongly flavored with the writer's personality; probably no other man will agree with it thoroughly, nor is it desirable that any one should; but it will be found to express in words a great deal which many had been unconsciously working out in their minds. And a book which does this in a temperate spirit is sure to make a rk and to leave a name in the history of its time. A violent spirit is to do a great deal of mischief which has to be undone later; it is en men are calm that they are strongest in argument, and although re are signs of human emotion in this book, such as the perpetual tting of the Bishops of Winchester and Gloucester, which to us in country will doubtless seem uncalled for, it is to be remembered w much more weight those men have in England than is possible for occupants of similar positions here. Their influence is vast, and ce they become prominent objects of attack. Another charge which been frequently brought against Mr. Arnold is, that of irreverence is comparison of the Trinity to three Lords Shaftesbury, and in this would by no means try to defend him. Notwithstanding the fre- nt use of this device in controversy, it may be said that it is not by nting out unessential errors that a book is refuted or that an accurate ression is given of its contents; let us then rather give a brief anal- s of this essay which shall convey to the reader the principal posi- ns held by Mr. Arnold.

In the first place, as those who are familiar with his previous writings ight have imagined, he utters his usual plea for culture as an impor- nt aid in the advancement of the world. Many who do not care to rn school-houses and libraries are continually offended by the lavish se made of this word, or, rather, its abuse. Especially is this true, hen, as is often the case, it is an apology for every form of scrappiness education and accomplishment, when it is taken for granted that y one who has acquired a smattering of many things must thereby be wiser man than he who has pondered a great deal over a few ques- ns; which is as sensible an opinion to hold as would be one that to nder through the picture-galleries of Europe could make all tourists eat artists. Culture can never be more than one of many aids in the owth of the human mind; it is to be desired for the use that may be de of it, but it does not do away with the natural differences between e ability of different minds. As Mr. Arnold uses it in his Preface, it rdly means more than literary method, which he applies to the con- eration of the Bible. This may seem a simpler step than a first one any new direction is apt to be; but that this is done, and done with ch fairness, is what makes his book what it is.

He begins with noting the difference between literary and scientific rms as they are employed in the Bible, illustrating his position by e different ways in which the term *God* is understood. “People use ” he says, “as if it stood for a perfectly definite and ascertained idea, om which we might, without more ado, extract propositions and draw ferences, just as we should from any other definite and ascertained idea. . . . . But, in truth, the word 'God' is used in most cases — not by the Bishops of Winchester and Gloucester, but by mankind in general — as by no means a term of science or exact knowledge, but a term of poetry and eloquence, a term *thrown out*, so to speak, at a not fully grasped object of the speaker's consciousness, — a literary term, in short; and mankind mean different things by it as their consciousness differs." A few pages further on, he says: "The object of religion is *conduct;* and conduct is really, however men may overlay it with philosophical disquisitions, the simplest thing in the world. That is to say, it is the simplest thing in the world as far as understanding is concerned; as regards doing, it is the hardest thing in the world." Further on he says: "It extends to rightness in the whole range of what we call conduct; in three fourths, therefore, at the very lowest computation, of human life. The only doubt is, whether we ought not to make the range of conduct wider still, and to say it is four fifths of human life or five sixths." Among the Jews was found the feeling of the importance of conduct; they had a stronger admiration of righteousness, or, rather, their admiration was less complicated by admiration of other things than was the case with other peoples. Their idea of God, Mr. Arnold says, was as The Eternal, *the not ourselves which makes for righteousness*, and here the question will arise whether he is justified in denying that they held a belief in a personal Deity; but this is a question which cannot be decided by the literary method alone; scholars will also have something to say about it. Later there arose among the Jews a less exalted notion of what their God was going to bring to them; instead of calmly accepting the fact that "righteousness tendeth to life," they looked for some more tangible result as a reward for their right doing; at first it was nothing but a vague, indefinite longing, hardly different from hope, but in time it changed into a belief in material progress.

Then came Christianity with its new message to man, that of the necessity of *personal religion.* Christ "put things in such a way that his hearer was led to take each rule or fact of conduct by its inward side, its effect on the heart and character; then the reason of the thing, the meaning of what had been mere matter of blind rule, flashed upon him. . . . . *To find his own soul,* his true and permanent self, became set up in man's view as his chief concern, as the secret of happiness; and so it really is." Again: "Christ made his followers first look within and examine themselves; he made them feel that they had a best and real self as opposed to their ordinary and apparent one, and that their happiness depended on saving themselves from being overborne. And then, by recommending, and still more by himself exemplifying in his own practice, by the exhibition in himself, with the most prepossessing pureness, clearness, and beauty, of the two qualities by which our ordinary self is indeed most essentially counteracted, *self-renouncement* and *mildness*, he made his followers feel that in these qualities lay the secret of their best self; that to attain them was in the highest degree requisite and natural, and that a man's happiness depended upon it." In this way "was the great doctrine of the Old Testament, *To righteousness belongs happiness!* made a true and potent word again." In time, however, arose the belief that "the mild, inward, self-renouncing, and sacrificed Servant of the Eternal, the new and better Messiah, was yet, before the present generation passed, to come on the clouds of heaven in power and glory." Since the Advent failed to come then, it was supposed that it would arrive at a later time; "the future and the miraculous engaged the chief attention of Christians; and in accordance with this strain of thought, they more and more rested the proof of Christianity, not on its internal evidence, but on prediction and miracle." Then follow two interesting chapters, one on the proof from prophecy, the other on proof from miracles. From this last chapter we will quote a few lines:—

"That miracles, when fully believed, are felt by men in general to be a source of authority, it is absurd to deny. One may say, indeed: Suppose I could change the pen with which I write this into a pen-wiper, I should not thus make what I write any the truer or more convincing. That may be so in reality, but the mass of mankind feel differently. In the judgment of the mass of mankind, could I visibly and undeniably change the pen with which I write this into a pen-wiper, not only would this which I write acquire a claim to be held pefectly true and convincing, but I should even be entitled to affirm, and to be believed in affirming, propositions the most palpably at war with common fact and experience. It is almost impossible to exaggerate the proneness of the human mind to take miracles as evidence, and to seek for miracles as evidence; or the extent to which religion, and religion of a true and admirable kind, has been, and is still, held in connection with a reliance upon miracles. To pick Scripture miracles one by one to pieces is an odious and repulsive task; it is also an unprofitable one," and Mr. Arnold does not undertake to do it. He contents himself with showing the possibility of error under which those who have given us an account of them labored, and how uncertain is the test which the mind of the believer applies to their examination. To him they are matters of less importance than the other parts of the New Testament. It is interesting to compare his method with that of Strauss and the Tübingen school, in this matter of miracles; Strauss dissects every account with the utmost care and exactness, as if he were anxious to build an intrenched camp of disbelief, which should forever serve for the protection and comfort of those who did not belong to the camp of orthodox belief, while, in comparison, Mr. Arnold leaves it an open question which is to be settled by the gradual change of opinion in men's minds.

The two chapters which follow, which are entitled, respectively, "The New Testament Record," and "The Testimony of Jesus to himself," are, perhaps, the most interesting in the book. Here the literary method, especially in the hands of so able a man as Mr. Arnold, is particularly useful. There is no call for profound historical or philological study to aid in the treatment of the questions which come up; we have the account of one man, who, it might almost be said, is nearly a contemporary of ours, in comparison with the ancient Israelites; we have often his very words, and, although they will carry a different meaning to every heart, varying with the nature and experience of the individual, they nevertheless were spoken directly to men; they were not designed as subjects for abstruse discussion or dogmatic reasoning.

It is impossible to give an analysis which shall be in any way complete, of what is itself a brief analysis of the New Testament. A few lines of extract must suffice to show the tact with which this work is done. For instance: —

"But search and sift the idea of righteousness Jesus did. And though the work of Jesus, like the name of God, calls up in the believer a multitude of emotions and associations far more than any brief definition can cover, yet, remembering Jeremy Taylor's advice to avoid exhortations *to get Christ*, *to be in Christ*, and to seek some more distinct and practical way of speaking of him, we shall not do ill, perhaps, if we summarize to our own minds his work by saying, that he restored the intuition of God through transforming the idea of righteousness; and that, to do this, he brought a *method*, and he brought a *secret*. And of those two great words which fill such a place in his gospel, *repentance* and *peace*, — as we see that his Apostles, when they preached his gospel, preached '*Repentance* unto life' and '*Peace* through Jesus Christ,' — of these two great words, one, *repentance*, attaches itself, we shall find, to his *method*, and the other, *peace*, to his *secret*." Again: "And now, too, we can see why it is a mistake, and may lead to much error, to exhibit any series of maxims, like those of the Sermon on the Mount, as the ultimate sum and formula into which Christianity may be run up. Maxims of this kind are but *applications* of the method and secret of Jesus; and the method and secret are capable of yet an infinite number more of such applications.

Christianity is a *source;* no one supply of water and refreshment that comes from it can be called the sum of Christianity." "A method of *inwardness*, a secret of *self-renouncement;* but can any statement of what Jesus brought be complete, which does not take in his *mildness?* To the representative texts already given there is certainly to be added this other: '*Learn of me that I am mild and lowly in heart, and ye shall find rest unto your souls!*' Shall we attach mildness to the *method*, because, without it, a clear and limpid view inwards is impossible? Or shall we attach it to the *secret?* — the dying to faults of temper is a part, certainly, of dying to one's ordinary self, one's *life in this world. Mildness*, however, is rather an element in which, in Jesus, both method and secret worked; the medium through which both the method and secret were exhibited. We may think of it as perfectly illustrated and exemplified in his answer to the foolish question, *Who is the greatest in the kingdom of heaven?* — when, taking a little child and setting him in the midst, he said, 'Whosoever receives the kingdom of God as a little child, the same is the greatest in it.' Here are both inward appraisal and self-renouncement; but what is the most admirable is the 'sweet reasonableness,' the exquisite, mild, winning felicity with which the renouncement and the inward appraisal are applied and conveyed."

The two following chapters, "The Early Witnesses," and "Aberglaube reinvading," discuss the later books of the New Testament, and the appearance and spread of certain of the dogmas of the Church. He gives us instances of the way in which literal criticism has perverted the true meaning of texts, and draws, as it seems to us, discreetly an outline of the main differences between Catholicism and Protestantism: "And many of the reproaches cast by one on the other are idle. If Catholicism is reproached with being indifferent to much that is called *civilization*, it must be answered, So was Jesus. If Protestantism, with its private judgment, is accused of opening a wide field for individual fancies and mistakes, it must be answered, So did Jesus when he introduced his method. Private judgment, 'the fundamental and insensate doctrine of Protestantism,' as Joseph de Maistre calls it, is in truth but the necessary 'method,' the eternally incumbent *duty*, imposed by Jesus himself, when he said, 'Judge not according to the appearance, but judge righteous judgment.' 'Judge *righteous* judgment' is the duty imposed; and the duty is not, whatever many Protestants may seem to think, fulfilled if the judgment be *wrong*. But the duty of inwardly judging is the very entrance into the way and walk of Jesus."

From the chapter entitled "Our 'Masses' and the Bible," we have room for but a single brief extract: "Thus we have the authority of both Old and New Testament placed on just the same solid basis as the authority of the injunction to take food and rest, namely, that experience proves we cannot do without them. And we have neglect of the Bible punished just as putting one's hand into the fire is punished, namely, by finding we are the worse for it. Only, to *attend* to this experience about the Bible needs more steadiness than to attend to the momentary impressions of hunger, fatigue, and pain; therefore it is called *faith*, and accounted a virtue. But the appeal is to experience in this case just as much as in the other; only to experience of a far deeper and greater kind."

In his chapter, "The true Greatness of Christianity," we find the following: "But there is this difference between the religion of the Old Testament and Christianity. Of the religion of the Old Testament we can pretty well see to the end; we can trace fully enough the experimental proof of it in history. But of Christianity the future is as yet, almost unknown. For that the world cannot get on without righteousness we have the clear experience, and a grand and admirable experience it is. But what the world will become by the thorough use of that which is really righteousness, the method and the secret and the secret reasonableness of Jesus, we have as yet hardly any experience at all." Again: "Walking on the water, multiplying loaves, raising corpses, a heavenly judge appearing with trumpets in the clouds while we are yet alive, — what is this compared to the real experience offered as witness to us by Christianity?"

It is with an earnest recurrence to these qualities of Christianity, to the appeal to the conscience and the self-renouncement it inculcates, that he closes this remarkable essay. Even those who are not convinced with the soundness of his theological views, will be unable to deny the reality of his religious feeling, as men know it in their moments of joy and grief when their hearts either forget dogmas entirely or use them but as a sort of language to express their emotions to the Unknown. The rejection of dogma, as Mr. Arnold shows, is apt to carry with it the rejection of the all-important truths which lie behind them and which they once expressed, but he seeks everywhere to show that these truths are essential to the well-being of man. That at times he may have missed the mark in this most difficult task, the ascertaining the meaning of men who undertook to express immortal things with all the limitations of language, it would be impossible to affirm. But we can assure every reader that he will find here a serious intention, and a sympathetic treatment which, if it does not convince, will, at any rate, be found extremely suggestive. It certainly tends to help Christianity, however hostile it may be found to separate sects. Our extracts, copious as they have been, will not be found to have done the book full justice; we hope, however, that they may inspire some readers with a desire to study his interesting and valuable essay.

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5. —— *St. Peter, an Oratorio.*—By JOHN K. PAINE. Boston. 1873.

As text for his oratorio Mr. Paine has chosen the history of St. Peter as narrated in the Gospels, and has condensed it into the form of a consecutive story which shall present the most important incidents in the life of this disciple in the vivid and contrasting situations allowed by dramatic license. Strictest adherence to original Biblical texts, with freedom in their arrangement, has been observed throughout the work. The concentration and free combination of the events form a notable feature in the denial, where the condensed narrative renders the situation at once dramatic and varied, and intensifies the thus rapidly succeeding moments of the drama of Peter's life.

The oratorio begins in F minor, with slow $\frac{6}{4}$ movement. Though most of the work has been written on the principle that polyphonic style of composition is the truest musical exponent of Biblical expression, we are confronted at the very outset with a short but subtle account of modern innovation. Instead of the time-honored prelude or pastorale with its second theme *a fuga*, inseparable from the rigid "credo" of our musical forefathers, we find a prologue whose opening lines remind us by their freedom of treatment of our departure from strict ancestral tenets, and tell us of modern reform and philosophical conception. The introduction is such in the strictest sense, and, like those of Gluck, is but preparatory to and finds its climax in the opening chorus, whose powerful unison notes in C major, followed by the ascending of the tenor to the third and of the bass to the octave, proclaim like a blast of trumpets, "The time is fulfilled." The four parts then say in turn, "The Kingdom of Heaven is at hand," passing with full declamatory accent from C minor into G major. It would not be difficult to imagine this portion of the "Divine Call" as belonging directly to the orchestral introduction. It seems like a preparatory outcry to draw attention to the command to "repent and believe," which follows. At this juncture the voices glide into the old form of church music and pursue an impressive theme through strange modulations, back into the key of C major, where in almost breathless tones it repeats the earnest injunction to believe the glad tidings of God. The recitative which follows, narrating the meeting of Jesus with Simon and Andrew as they were fishing, is an unusually fine sample of *arioso* declamation, and, like that in No. 9, is full of exquisite pathos. It may be regarded as a specimen of this kind of recitative commonly employed throughout the work.

After an attractive soprano aria, resembling in character of theme the preceding number, Jesus calls his twelve disciples together and sends them out to preach. In No. 4 the twelve respond to this call in the words of Luke i. 76–79, joined by a large chorus of unbelievers. The twelve (male voices) open the chorus with a sweet melody in unison, saying, "We go before the face of the Lord," passing in four-part harmony into D major. The entire chorus then repeats in the original key of B♭ the words of the twelve. Let those who are musical cast an unprejudiced eye at this number. We do not wish to discuss here that oft-disputed question among German theorists, when a melody may be expressive and when not; but we feel safe in predicting for this chorus a wide popularity. Both the melody of the twelve and that sung in response by the soprani are charming. At the end of this response the twelve voices, again in unison, say, "Whereby the dayspring from on high hath visited us to give light unto them that sit in darkness and in the shadow of death." The diminished minor chords into which the full chorus afterwards modulates, where the word "darkness" occurs, and the words "in the shadow of death," give a deep undertone of solemnity. We are conscious of a load removed from the heart as the whole chorus, in six-part harmony, glides, *pianissimo*, into an almost inimitable phrase in F major. The effect of the male voices holding the chord of the seventh, while the sopranos and altos pronounce for the last time their solemn words, the altos falling to the diminished ninth, is thrilling, and with the sudden revolution of feeling as they all float into that simple but beautiful phrase in F, is one of the most marked in the whole work. The character of all the parts of this number is strikingly melodious, and the rhythmical flow of the entire piece is natural and pleasing.

Space will not allow a minute analysis of each number, and we must therefore make a rapid *résumé* of those pieces which at first hearing seem to be the best and most pleasing. First, then, we select the part of the barytone — Peter — as the most interesting and best of the solo parts. With the exception of some passages of difficult intonation, the entire part of St. Peter is free, vigorous, and of exalted, manly tone. The aria, "O God, forsake me not!" is fine, and the aria, "Ye men of Judæa," we pronounce, without hesitation, to be one of the best pieces of solo composition in the church music of this century. From the first to the last note there is not a moment of halting or apparent loss of the thread of musical discourse. The declamation is fine and apt; the

thm powerful and flowing, sustaining its *maestoso* character to the end.
e the simple, but forcible opening measures and their fine declama-
; the spirited interlude and following masterly rendering of the
; the melodious nature of "and your sons," with the dramatic end-
"and your old men shall dream dreams," the very tone of which is
phetic. The dramatic character of the composition at this point is
aordinary.

f the soprano airs, the first is sweet and tender; and the "O
of God" strongly dramatic, though too heavily accompanied for
nary voices.

he tenor has the narrative to tell, and, with one exception, sings in
tative and declamatory arioso. Among the latter are some exceed-
y choice bits of melody, expressively tender wherever Jesus is rep-
nted as speaking; of these, "Simon; son of Jonas, lovest thou me?"
"Feed my lambs." The cadence also where Jesus tells Peter,
hou shalt deny me thrice," is full of meaning.

f the solos for contralto we call special attention to the passionate
cry (No. 12), "And lo, Judas came," — a recitative of great power.
Another characteristic contralto recitative is that telling of Peter's
rd denial." And he went out and wept bitterly," with its A flat in
vocal part against the A natural of the accompaniment on the word
itterly," is a very dramatic expression.

There are, however, places in the contralto part where the declama-
is marred by a certain stiffness in the musical intervals; and there
n occasional abruptness which disturbs one; but these are more than
pensated by the beauty of many other passages.

Most prominent among the choruses are Nos. 1 and 4, already de-
bed; the bright chorus in C major, "The Church is built," whose
ef characteristics are a sharply defined declamation, majestic move-
nt, and vigourous harmony; No. 13, "We hid our faces from him,"
h a melodious theme in F minor, a short and beautiful number, abound-
in simple pathos; the agitated and finely declaimed chorus No. 14,
re the people angrily declare to Peter, "Surely thou art one of them,"
hreatening measures of D minor, a number whose finely varied dra-
tic situations and terse musical expression amply repay study; and
. 19. This last forms the climax of and closes the first part. From
. 13 there is a steady crescendo which culminates in No. 19.

The choruses of the second part are also telling, especially the clos-
chorus and "This is the witness of God"; and, "The voice of the
rd," with its highly original theme. We cannot omit mentioning No.
whose eight and nine part harmony, with its barytone obligato,
okens extraordinary gifts of composition.

Of the orchestration of the oratorio it is impossible to write in detail without a score. It is just as impossible to attempt a full description, after but one hearing, of an imperfect orchestral rendering.

The narrative style of the libretto necessitates employing continually a great deal of declamation. But we find less *secco* recitative, and a smaller number of all kinds of recitative than in the "Elijah" or the "Creation," and somewhat less of arioso than in the "Elijah," "Samson," "St. Paul," "Naaman," "Eli," and other popular works have even more recitative than the "Elijah." Nor do we find any striking similarity between "St. Peter" and Mendelssohn's "St. Paul," as has been stated in a recent criticism. If there be a similarity, it is one of form, surely not one of matter. There is perhaps a vague likeness in the internal arrangement, the narrative style, and the chorals. The chorus, "Behold are not all," may remind one of certain Jewish choruses in "St. Paul." But this is all. The music, both in spirit and style, is certainly Mr. Paine's own. To a profound student of Bach,— and we all know Mr. Paine to be such,— "St. Paul" is but a huge imitation of the Sebastian Bach "Passion-Musik." Indeed not musicians alone, but well-educated musical *dilettanti*, are sensible of a great similarity in model between "St. Paul" and "St. Matthew." Bach's "Passion-music" has in turn borrowed its model from the Heinrich Schütz cantatas, in their turn modelled on the Turbæ, or short dramatic choruses of the Jewish crowd in the Passion-music of the Middle Ages. Thus an intimation that Mr. Paine had borrowed from Mendelssohn's "St. Paul" is in any event without any weighty significance. We might as well say that the great "St. Mark" of Tintoretto was a copy of Titian, because the *colorito* of the latter had been profoundly studied by Tintoretto, or because, being disciples of the Venetian school, Titian was the elder.

There is but one feeling among lovers of music, regarding the production in Boston of "St. Peter." All wish it. The oratorio, however it may be criticised, remains, and will remain, a master work. Whatever its eventual destiny, it deserves a place now on the repertory of Boston oratorios. Its great artistic merits demand public recognition, and we doubt not that a fine performance of the oratorio will present its numberless beauties in a light so convincing to the hearts of sincere followers of all that is good and true in art, as will make "St. Peter" for a long time popular among us.

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ART. I. — THE PROGRESS FROM BRUTE TO MAN.

(*Two Chapters from a forthcoming work on the Doctrine of Evolution.*) *

I.

THE chief difficulty which most persons find in accepting the Doctrine of Evolution, as applied to the origin of the human race, is the difficulty of realizing in imagination the kinship between the higher and the lower forms of intelligence and emotion. And this difficulty is enhanced by a tendency of which our daily associations make it hard to rid ourselves. This is a tendency to exaggerate the contrasts which really exist, by leaving out of mind the intermediate phenomena and considering only the extremes. Many critics, both among those who are hostile to the Development Theory and among those who regard it with favor, habitually argue as if the intelligence and morality of the human race might be fairly represented by the intelligence and morality of a minority of highly organized and highly educated people in the most civilized communities. When speaking of mankind they are speaking of that which is represented to their imagination by the small number of upright, cultivated, and well-bred people with whom they are directly acquainted, and also to some extent by a few of those quite exceptional men and women who have left names recorded in history. Though other elements are admitted into the conception, these are, nevertheless, the ones which chiefly give to it its character. Employing then this conception of mankind, abstracted from these inadequate instances, our critics ask us how it is possible to imagine that a race possessed of such a godlike intellect, such a keen æsthetic sense, and such a lofty soul should ever have descended from a race of mere brutes. And again they ask us how can a race endowed with such a capacity for progress be genetically akin to those lower races of which even the highest show no advance from one generation to another. Confronted thus by difficulties which reason and imagination seem alike incompetent to overcome, they too often either give up the problem as insoluble, or else — which amounts to nearly the same thing — have recourse to the *deus ex machina* as an aid in solving it.

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* In thus publishing as an independent article what is really a fragmentary portion of an integral work, I have unavoidably been compelled to make occasional reference to arguments contained in other chapters of the work, the full force of which, therefore, will not be here apparent. This slight inconvenience, however, will probably make little difference to the reader. For he who already understands and accepts the Development Theory will have no difficulty in following my argument; while to him who neither understands nor accepts the Development Theory my argument will have no significance or value whatever.

Influenced, no doubt, by some such mental habit as this, Mr. St. George Mivart declares that, while thoroughly agreeing with Mr. Darwin as to man's zoölogical position, he nevertheless regards the difference between ape and mushroom as less important than the difference between ape and man, as soon as we take into the account "the totality of man's being." (Nature, April 20, 1871.) In this emphatic statement there is a certain amount of truth, though Mr. Mivart is not justified in implying that it is a truth which the Darwinian is bound not to recognize. The enormous difference between civilized man and the highest of brute animals is by no one more emphatically recognized than by the evolutionist, who holds that to the process of organic development there has been superadded a stupendous process of social development, and who must therefore admit that with the beginning of human civilization there was opened a new chapter in the history of the universe, so far as we know it. From the human point of view we may contentedly grant that, for all practical purposes, the difference between an ape and a mushroom is of less consequence than the difference between an ape and an educated European of the nineteenth century. But to take this educated European as a typical sample of mankind, and to contrast him directly with chimpanzees and gibbons, is in the highest degree fallacious; since the proceeding involves the omission of a host of facts which, when taken into account, must essentially modify the aspect of the whole case.

When we take the refined and intellectual Teuton, with his one hundred and fourteen cubic inches of brain, and set him alongside of the chimpanzee with his thirty-five cubic inches of brain, the difference seems so enormous as to be incompatible with any original kinship. But when we interpose the Australian, whose brain, measuring seventy cubic inches, comes considerably nearer to that of the chimpanzee than to that of the Teuton, the case is entirely altered, and we are no longer inclined to admit sweeping statements about the immeasurable superiority of man, which we may still admit, provided they are restricted to civilized man. If we examine the anatomical composition of these brains, the discovery that in structural complexity the Teutonic cerebrum surpasses the Australian even more than the latter surpasses that of the chimpanzee, serves to strengthen us in our position. And when we pass from facts of anatomy to facts of psychology, we obtain still further confirmation; for we find that the difference in structure is fully paralleled by the difference in functional manifestation. If the Englishman shows such wonderful command of relations of space, time, and number as to be able to tell us that to an observer stationed at Greenwich on the 7th of June, A. D. 2004, at precisely nine minutes and fifty-six seconds after five o'clock in the morning, Venus will begin to cross the sun's disk, the Australian, on the other hand, is able to count only up to five or six, and cannot tell us the number of fingers on his two hands, since so large a number as ten excites in him only an indefinite impression of plurality.* Our conception of the godlike intellect evidently will not apply here. If the emotions of the German and his intellectual perceptions of the fitness of harmonious sounds for expressing emotion are so deep and subtile and varied as to result in the production of choruses like those of Handel and symphonies like those of Beethoven, the crude emotions of the Australian, on the other hand, are quite adequately expressed by the discordant yells and howls which constitute the sole kind of music appreciable by his undeveloped ears. We look in vain here for traces of the keen æsthetic sense which in a measure links together our intellectual and moral natures. Again, if the American student has been known to be actuated by such noble ethical impulses and guided by such lofty conceptions of morality as to leave his comfortable home and his favorite pursuits, and engage in rough warfare, at the risk of life and limb, solely or chiefly that he might assist in relieving the miseries of far inferior men, whose direct claim upon his personal sympathies

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* The Dammaras, according to Mr. Galton, are even worse off than this. "When they wish to express four, they take to their fingers, which are to them as formidable instruments of calculation as a sliding rule is to an English school-boy. They puzzle very much after five, because no spare hand remains to grasp and secure the

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fingers that are required for units. Yet they seldom lose oxen; the way in which they discover the loss of one is not by the number of the herd being diminished, but by the absence of a face they know. When bartering is going on, each sheep must be paid for separately. Thus, suppose two sticks of tobacco to be the rate of exchange for one sheep, it would sorely puzzle a Dammara to take two sheep a d give him four sticks. I have done so, and seen a man put two of the sticks apart, and take a sight over them at one of the sheep he was about to sell. Having satisfied himself that that one was honestly paid for, and finding to his surprise that exactly two sticks remained in hand to settle the account for the other sheep, he would be afflicted with doubts; the transaction seemed to come out too 'pat' to be correct, and he would refer back to the first couple of sticks; and then his mind got hazy and confused, and wandered from one sheep to the other, and he broke off the transaction until two sticks were put into his hand, and one sheep driven away, and then the other two sticks given him, and the second sheep driven away. . . . . Once while I watched a Dammara floundering hopelessly in a calculation on one side of me, I observed Dinah, my spaniel, equally embarrassed on the other. She was overlooking half a dozen of her new-born puppies, which had been removed two or three times from her, and her anxiety was excessive, as she tried to find out if they were all present, or if any were still missing. She kept puzzling and running her eyes over them, backwards and forwards, but could not satisfy herself. She evidently had a vague notion of counting, but the figure was too large for her brain. Taking the two as they stood, dog and Dammara, the comparison reflected no great honor on the man." — Galton, Tropical South Africa, p. 132, cited in Lubbock, Origin of Civilization, Amer. ed., p. 294. See also Tylor, Primitive Culture, Vol. I. pp. 218–246. Probably the dual number, in grammar, "preserves the memorial of that stage of thought when all beyond two was an idea of indefinite number." Id., p. 240.

could never be other than slight, on the other hand the Australian has no words in his language to express the ideas of justice and benevolence, and no amount of teaching can make him comprehend those ideas. For although, like some brute animals, he is not wholly destitute of the feelings which underlie them, yet these feelings are so seldom repeated in his experience that he is unable to generalize from them. The lofty soul, which is too sweepingly attributed to man in distinction from other animals, is here as difficult to discover as the godlike intellect or the keen æsthetic sense.

In similar wise is made to disappear the sharp contrast between human and brute animals in capability of progress. Hardly any fact is more imposing to the imagination than the fact that each generation of men is perceptibly more enlightened than the preceding one, while each generation of brutes exactly resembles those which have come before it. But the contrast is obtained only by comparing the civilized European of to-day directly with the brute animals known to us through the short period of recorded human history. The capability of progress, however, is by no means shared alike by all races of men. Of the numerous races historically known to us, it has been manifested in a marked degree only by two, — the Aryan and Semitic. To a much less conspicuous extent it has been exhibited by the Chinese and Japanese, the Copts of Egypt, and a few of the highest American races. On the other hand, the small-brained races — the Australians and Papuans, the Hottentots, and the majority of tribes constituting the wide-spread Malay and American families — appear almost wholly incapable of progress, even under the guidance of higher races. The most that can be said for them is, that they are somewhat more imitative and somewhat more teachable than any brute animals. In the presence of the Aryan, even under the most favorable circumstances, they tend to become extinguished, rather than to appropriate the results of a civilization which there is no reason to suppose they could ever have originated. The two great races of Middle Africa, the Negroes and Kaffirs, have shown, by their ability to endure slave labor, their superiority to those above mentioned; but their career, where it has not been interfered with by white men, has been but little less monotonous than the career of a brute species. Of all these barbarian races, we commonly say that they have no history; and by this we mean that throughout long ages they have made no appreciable progress. In a similar sense we should say of a race of monkeys or elephants, that it has no history.

Of like import is the fact, that as we go backward in time we find the progressiveness of the civilized races continually diminishing. No previous century ever saw anything approaching to the increase in social complexity which has been wrought in America and Europe since 1789. In science and in the industrial arts the change has been greater than in the ten preceding centuries taken together. Contrast the seventeen centuries which it took to remodel the astronomy of Hipparchus with the forty years which it has taken to remodel the chemistry of Berzelius and the biology of Cuvier. Note how the law of gravitation was nearly a century in getting generally accepted by foreign astronomers,* while within half a dozen years from its promulgation, Darwinism became the accepted creed of the great majority of naturalists. How small the difference between the clumsy wagons of the Tudor period and the mail-coach in which our grandfathers rode, compared to the difference between the mail-coach and the railway train! How enormous the revolution in philosophic thinking since the time of the *Encyclopédistes*, in comparison with the slow changes which occurred between the epoch of Aristotle and the epoch of Descartes! In morality, both individual and national, and in general humanity of disposition and refinement of manners, the increased rapidity of change has been no less marked.

But these considerations are immensely increased in force when we take into account those epochs which, in the light of our present knowledge, can alone properly be termed ancient. Far beyond the comparatively recent period at which human

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[*] It was still on trial in France in 1749, when Clairaut and Lalande magnificently verified it by calculating the retardation of Halley's comet. It may be said that the French are notoriously slow in adopting ideas which have originated in other countries, and that they now ignore natural selection much as they formerly ignored gravitation. Nevertheless, in spite of the Academy and Monsieur Flourens, there are plain indications that the doctrine of special creations is doomed speedily to suffer the fate in France which it has already suffered in Germany, England, and America.

istory began on the eastern shores of the Mediterranean, ex-
nd the ages during which, as paleontology shows us, both the
stern and the western hemispheres were peopled by races of
en. Ten thousand centuries before the time of Homer and
e Vedic poets, wild men, with brute-like crania, carried on
e struggle for existence with mammoths, tigers, and gigantic
ars, long since extinct. And recent researches make it prob-
le that even this enormous period must be multiplied six or
ght fold before we can arrive at the time when men first ap-
ared upon the earth as creatures zoölogically distinct from
es. The significance of these conclusions, even when we
ke into account only the shorter epoch of a single million of
ars, cannot be too strongly insisted upon. They show us
at it is only in recent times that man has become widely dis-
guished from other animals by his capability of progress.
, as evidence of our present progressiveness, we cite the supe-
ority of our Whitworth guns and Chassepot rifles over the
witzers and flintlocks used by our grandfathers, we must also
member that more than twenty thousand generations lived
d died before the primitive stone hatchets and stone-pointed
rows were superseded by battle-axes and javelins headed with
ronze. During these long ages each generation must have
itated its predecessor almost as closely as is the case with
rute animals. The godlike intellect, of whose achievements
e are now so justly proud, was then being acquired by almost
finitely minute increments. In the face of the proved fact of
an's immense antiquity, no other conclusion is admissible.

I have introduced these considerations, not so much to con-
rm the theory of the descent of man from an ape-like animal,
— which I regard as already sufficiently proved by the evidence
resented in previous chapters, — as to illustrate the true point
f view from which the evolution of humanity should be regard-
d. In treating of the doctrine of evolution in general, Mr.
pencer has shown it to be a corollary from the persistence of
orce that the process of evolution, which at first goes on with
omparative slowness, must, owing to the multiplication of
ffects, go on with increasing rapidity. And he shows, more-
over, that those most conspicuous aspects of evolution which
consist in increase of definite complexity in structure and func

tion must be much more conspicuous in the more compoun
than in the more simple kinds of evolution. In illustration
these closely allied truths, we may note that in all cases a lon
period of time elapses before any lower order of evolution giv
rise to a distinctly higher order. Long ages must have passe
before the slow integration of our solar nebula into a planeta
system resulted in the appearance of distinctly geologic phenom
ena upon the several planets. Again, it was a long time b
fore geologic evolution had proceeded sufficiently far to adm
of the evolution of life: upon Saturn and Jupiter, as we ha
seen, the genesis of anything like what we know as life woul
appear still to be impossible. Again, after the first appearan
of life upon our earth, a long time must have elapsed befo
protists, simple plants, and nerveless animals were succee
ed by animals sufficiently complex to manifest even the mo
rudimentary phases of psychical life. And again, as we ca
now see, the evolution of physical and psychical life to the ve
high degree exemplified in the primeval ape-like man was fo
lowed by a somewhat long period, during which the still high
psychical changes constituting social evolution were slowly a
suming their distinctive characteristics.

Social evolution, therefore, regarded as a complicated seri
of intellectual and emotional changes determined by the aggr
gation of men into communities, is a new order of evolutio
more highly compounded than any that have gone before i
When, in the course of the struggle for existence, men bega
to unite in family groups of comparatively permanent organ
zation, a new era was begun in the progress of things upon th
earth's surface. A new set of structural and function
changes began, which, for a long while proceeding with th
slowness characteristic of the early stages of every order
evolution, are at last proceeding with a rapidity only to b
slackened when the ultimate stage of equilibrium is approache
Hence it is in the highest degree unphilosophical to attempt t
explain the present position of civilized man solely by referen
to the laws of organic and psychical evolution as obtained b
the study of life in general. It is for biology to explain th
differences between the human hand and foot and the hand
and feet of the other primates; but the chief difference

between civilized man and the other members of the order to which he belongs are psychological differences, and the immense series of psychical changes to which they are due has been all along determined by social conditions.

The all-important contrast, therefore, is not between man and other primates, extinct and contemporary, but between civilized man and primitive man. Already we have found that the lowest contemporary man, whose social organization has never reached any higher form than that of the simplest tribal community, exhibits but scanty traces of the godlike intellect, the refined tastes, or the lofty soul which we are accustomed to ascribe to humanity in general as its distinctive attributes. Humanity, zoölogically considered, exists to-day, to which these attributes cannot be ascribed without a considerable strain upon the accepted meaning of our words. Zoölogically, the Australian belongs to the genus Homo, and is therefore nearer to us than to the gorilla or gibbon; psychologically, he is in many respects further removed from us than from these manlike apes. No one will deny that the intellectual progress implied in counting up to five or six, though equally important, is immeasurably inferior in quantity to the subsequent progress implied in the solution of dynamical problems by means of the integral calculus, — an achievement for which the average modern engineer is competent. But in going back to the primeval man, we must descend to a lower grade of intelligence than that which is occupied by the Australian. We must traverse the immensely long period during which the average human skull was enlarging from a capacity of thirty-five inches, like that of the highest apes, to a capacity of seventy inches, like those post-glacial European skulls, of which the one found at Neanderthal is a specimen, and which are about on a par with the skulls of Australians. And when we have reached the beginning of this period — possibly in the Miocene epoch — we may fairly represent to ourselves the individuals of the human genus as animals differing in little save a more marked sociality from the dryopithecus and other extinct half-human apes. We may represent primitive man as an animal in whom, physical and psychical changes having hitherto proceeded *pari passu*, intelligence had at length arrived at a point where variations in it would sooner be seized on by natural selection than variations in physical structure. When, among primates possesse of such an intelligence, the family groups temporarily forme among all mammals began to become permanent, then we mus say that there began the career of humanity as distinguishe from animality. For countless ages our ancestors probabl were still but slightly distinguished from other primates, sav that their increasing intelligence, their use of weapons, an their habits of combination rendered them more than a mat for much larger and stronger animals. In the later Plioce times these primitive men may have come to bear some rese blance to the lowest contemporary savages. Human remai and relics of the still later glacial period supply clear proof such a resemblance; yet the absence of any improvement weapons and implements for many ages longer shows that yet there was but little capability of progress. Of the care of mankind during the eight hundred thousand years whi would seem to have elapsed since the era of the cave bear a woolly rhinoceros,* we possess many vestiges. But everythi indicates the most extreme barbarism; nowhere does the appear a trace of anything like even the rudest civilizatio until we reach that comparatively recent epoch antecedent the dawn of history, but accessible to philology. The part restoration of the Aryan mother-tongue enables us to go ba perhaps a dozen or fifteen centuries beyond the age of Hom and the Vedas, and catch a few glimpses of the prehisto Aryans, — an agricultural race completely tribal in organi tion, but acquainted with the use of metals, and showing marks of an intelligence decidedly above that of high contemporary barbarians like the Kaffirs. At the same time the deciphering of hieroglyphics on Egyptian monuments reveals to us the existence in the valley of the Nile of an old and immobile civilization, organized on a tribal basis, like that of China, already sinking in political decrepitude at the ill-defined era at which we first catch sight of it. Of the beginnings of civilization on the Nile, and also, indeed, on the Euphrates, and of the stages by which the Aryans arrived at the intellectual pre-eminence to which their recovered language bears witness, we know absolutely nothing. But even if we were to allow twenty thousand years for these proceedings, — an interval nearly seven times as long as that which separates the Homeric age from our own time, — we should obtain but a brief period compared with the countless ages of unmitigated barbarism which preceded it. The progress of mankind is like a geometrical progression. For a good while the repeated doubling produces quite unobtrusive results; but as we begin to reach the large numbers the increase suddenly becomes astonishing. Since the beginning of recorded history we have been moving among the large numbers, and each decade now witnesses a greater amount of psychical achievement than could have been witnessed in thousands of years among preglacial men. Such a result is just what the Doctrine of Evolution teaches us to anticipate; and it thoroughly confirms our statement that, in point of intelligence and capacity for progress, the real contrast is not between all mankind and other Primates, but between civilized and primeval man.

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* In assigning this conjectural date, I follow the theory which connects the gr glacial epoch with that notable increase in the eccentricity of the earth's orbit whi as calculated by Mr. Croll, began about 950,000 years B. C., and lasted 200,0 years. But while the fact of this great increase of eccentricity is, I presume, w ell established, and while it can hardly fail to have wrought marked climatic chang es, it is by no means proved that the glaciation of Europe and North America w as produced solely or chiefly by this circumstance; and accordingly I do not care to insist upon the chronology which I have adopted in the text. Nor is it necess ry for the validity of my argument that it should be insisted on. What we do kn ow is, that men existed both in Europe and in North America at the beginning of he glacial period; that this extensive dispersal implies the existence of the hum an race for a long time previous to this epoch; and thus we obtain a dumb antiqu ty in comparison with which the whole duration of the voice of historic traditi on shrinks to a mere point of time. And this is all that my argument requires.

Let us now consider some of the leading characteristics of this gradual but increasingly rapid intellectual progress, regarded as a growing correspondence between the human mind and its environment.

In his essay on "The Genesis of Science," Mr. Spencer has shown that the highest kinds of scientific knowledge differ only in degree from the lowest kinds of what is called ordinary knowledge. In spite of their great differences in mental capacity, it is obvious that the antelope who on hearing a roar from the neighboring thicket infers that it is high time to run for his life, the Bushman who, on seeing the torn carcass of the antelope infers that a lion has recently been present, and th astronomer who on witnessing certain unforeseen irregularitie in the motions of Uranus infers that an unknown planet i attracting it, perform one and all the same kind of menta operation. In the three cases the processes are fundamentall the same, though differing in complexity according to th number and remoteness of the past and present relations whic are compared. In each case the process is at bottom a grouping of objects and of relations according to their likenesse and unlikenesses. It similarly appears that all knowledge is a classification of experiences, and that every act of knowledge is an act of classification; that an act of *inference*, such as is involved in simple cases of perception, is "the attributing to a body, in consequence of some of its properties, all those properties by virtue of which it is referred to a particular class"; that the "forming of a *generalization* is the putting together in one class all those cases which present like relations"; and that "the drawing a *deduction* is essentially the perception that a particular case belongs to a certain class of cases previously generalized. So that, as ordinary classification is a grouping together of *like things*, reasoning is a grouping together of *like relations* among things." * In this fundamental doctrine the two different schools of modern psychology, represented respectively by Mr. Bain and Mr. Mansel, will thoroughly agree. But from this it inevitably follows that the highest and the lowest manifestations of intelligence consist respectively of processes which differ only in heterogeneity and definiteness and in the extent to which they are compounded.

But while proving that science is but an extension of ordinary knowledge, Mr. Spencer shows also that the higher orders of knowledge differ from the lower in the greater remoteness, generality, and abstractness of the relations which they formulate, in the greater definiteness of their formulas, and in their more complete organization. His inquiry into the mutual relations of life and intelligence † has elicited an exactly parallel set of conclusions. It is there shown that psychical life s in the continuous establishment of subjective relations ring to objective relations; and that, as we advance h the animal kingdom from the lowest to the highest this correspondence between the mind and its environ-extends to relations which are continually more remote e and time, more clearly defined, but at the same time general; and finally there is also traced a progressive zation of correspondences. Continually, while passing ew the various aspects of the progress of intelligence in imal kingdom, the author finds himself ending with illus-s drawn from that progress of human intelligence which rmined by social conditions. Let us now illustrate this somewhat further by tracing out the intellectual corre-nce between man and his environment, as increasing in ness, in speciality and generality, in complexity, in eness, and in coherent organization.

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* Spencer's Essays, I. 189.

† Spencer, Principles of Psychology, Part III.

extension of the correspondence in space is a marked teristic of intellectual progress, which we have already through the ascending groups of the animal kingdom, ich is carried much further by man than by any lower l. It is no doubt true that the direct adjustments of cal relations to distant objective relations, effected by d perception, have a narrower range in civilized men n uncivilized men or in several of the higher mammals rds. It is a familiar fact that the senses of civilized man t least the three senses which have a considerable range ce — are less acute and less extensive in range than f the barbarian. It is said that the Bushman can see as th the naked eye as a European can see with a field-and certain wild and domestic birds and mammals, as con, the vulture, and perhaps the greyhound, have still vision. Among the different classes of civilized men, who, by living on the fruits of brain-work done in-doors, ost widely differentiated from primeval men, have as a l rule the shortest vision. And the rapid increase of r life, which is one of the marked symptoms of modern tion, tends not only to make myopia more frequent, but diminish the average range of vision in persons who are opic. There may very likely have been a similar, though

less conspicuous and less carefully observed, decrease in th
range of hearing. And the sense of smell, which is so marve
lously efficient in the majority of mammals and in man
savages, is to us of little use as an aid in effecting correspon
ences in space.

In the case also of those simpler indirect adjustments whic
would seem to involve the use of the cerebellum chiefly, w
have partially lost certain powers possessed by savages an
lower animals. There are few things in which civilized m
differ among themselves more conspicuously than the recolle
tion of places, the identification of landmarks, and the abili
to reach a distant point through crooked streets without losi
the way. But in these respects the most sagacious of us a
but bunglers compared with primitive men or with dogs an
foxes. Few things are more striking than the unerring i
stinct with which the Indian makes his way through utte
trackless forests, seldom stopping to make up his mind, an
taking in at a single glance whole groups of signs which to h
civilized companion are inappreciable. The loss of this pow
of co-ordination, like the decrease in the range of the senses,
undoubtedly due to disuse, the circumstances of civilized life
fording little or no occasion for the exercise of these facultie

But although in these respects the correspondence in spa
does not seem to have been extended with the progress of civ
ization, yet in those far more indirect and complicated adju
ments which, as involving time-relations of force and cau
depend largely on the aid of the cerebrum, the civilized m
surpasses the savage to a much greater extent than the sava
surpasses the wolf or lion. "By combining his own perc
tions with the perceptions of others as registered in maps," t
modern "can reach special places lying thousands of mi
away over the earth's surface. A ship, guided by compass a

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* In the course of the recent interesting discussion and correspondence in Na
concerning the "sense of direction" exhibited in barbarians and lower animals
was observed that a party of Samoyeds will travel in a direct line from one po
to another over trackless fields of ice, even on cloudy nights when there is acc
ingly nothing whatever that is visible to guide their course. It would be too m
to assert that this faculty is utterly lost in civilized man, so that a temporary rec
rence to the conditions of barbaric life might not revive it; but even if retained
all, it is certainly kept quite in abeyance.

stars and chronometer, brings him from the antipodes information by which his purchases here are adapted to prices there. From the characters of exposed strata he infers the presence of coal below; and thereupon adjusts the sequences of his actions to coexistences a thousand feet beneath. Nor is the environment through which his correspondences reach limited to the surface and the substance of the earth. It stretches into the surrounding sphere of infinity." In all these respects, the extension of the correspondence achieved during the progress of civilization has been much greater than that achieved during the immediately preceding stages of the evolution of man from an inferior primate. "From early races acquainted only with neighboring localities, up to modern geographers who specify the latitude and longitude of every place on the globe; from the ancient builders and metallurgists, knowing but surface deposits, up to the geologists of our day whose data in some cases enable them to describe the material existing at a depth never yet reached by the miner; from the savage barely able to say in how many days a full moon will return, up to the astronomer who ascertains the period of revolution of a double star;—there has been" an enormous "widening of the surrounding region throughout which the adjustment of inner to outer relations extends." * It only remains to add that the later and more conspicuous stages of this progress have been determined by that increase in the size and heterogeneity of the social environment which results from the growing interdependence of communities once isolated, and which I have elsewhere shown to be the chief determining cause of progress in general.† For this integration of communities has not only directly enlarged the area throughout which adjustments are required to be made, but it has indirectly aided the advances in scientific knowledge requisite for making the adjustments.

Great, however, as has been the extension of the correspondence in space which has characterized the progress of the favored portion of humanity from barbarism to civilization, the extension of the correspondence in time is a much more conspicuous and more distinctively human phenomenon. As we

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* Spencer, Psychology, I. 317, 319.

† See "The Laws of History," North American Review, July, 1869.

trace this kind of mental evolution through sundry classes a orders of the animal kingdom in an ascending series, it is be observed that until we reach the higher mammals the t kinds of correspondence advance together, — the distance which outer relations are cognized forming a measure of the terval by which their effects may be anticipated. But amo the higher mammals there is observed a higher order of justments to future emergencies, which advances more rapid than the extension of the correspondence in space, and wh ic in the human race first acquires a notable development. "No that the transition is sudden," observes Mr. Spencer. "During the first stages of human progress, the method of estimating epochs does not differ in nature from that employed by the more intelligent animals. There are historical traces of the fact that originally the civilized races adjusted their actions to the longer sequences in the environment, just as Australians and Bushmen do now, by observing their coincidence with the migrations of birds, the floodings of rivers, the flowerings of plants. And it is obvious that the savages who, after the ripening of a certain berry, travel to the sea-shore, knowing that they will then find a particular shell-fish in season, are guided by much the same process as the dog who, on seeing the cloth laid for dinner, goes to the window to watch for his master. But when these phenomena of the seasons are observed to coincide with recurring phenomena in the heavens, — when, as was the case with the aboriginal Hottentots, periods come to be measured partly by astronomical and partly by terrestrial changes, — then we see making its appearance a means whereby the correspondence in time may be indefinitely extended. The sun's daily movements and the monthly phases of the moon having once been generalized, and some small power of counting having been reached, it becomes possible to recognize the interval between antecedents and consequents that are long apart, and to adjust the actions to them. Multitudes of sequences in the environment which, in the absence of answering functional periods, cannot be directly responded to by the organism, may be discerned and indirectly responded to when there arises this ability of numbering days and lunations."*

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* Spencer, Psychology, Vol. I. p. 326.

In the advance to high stages of civilization, the extension of the correspondence in time is most conspicuously exemplified in the habitual adjustment of our theories and actions to sequences more or less remote in the future. In no other respect is civilized man more strikingly distinguished from the barbarian than in his power to adapt his conduct to future events, whether contingent or certain to occur. The ability to forego present enjoyment in order to avoid the risk of future disaster is what we call prudence or providence; and the barbarian is above all things imprudent and improvident. Doubtless the superior prudence of the civilized man is due in great part to his superior power of self-restraint; so that this class of phenomena may be regarded as illustrating one of the phases of moral progress. Nevertheless, there are several purely intellectual elements which enter as important factors into the case. The power of economizing in harvest-time or in youth, in order to retain something upon which to live comfortably in winter or in old age, is obviously dependent upon the vividness with which distant sets of circumstances can be pictured in the imagination. The direction of the volitions involved in the power of self-restraint must be to a great extent determined by the comparative vividness with which the distant circumstances and the present circumstances are mentally realized. And the power of distinctly imagining objective relations not present to sense is probably the most fundamental of the many intellectual differences between the civilized man and the barbarian, since it underlies both the class of phenomena which we are now considering and the class of phenomena comprised in artistic, scientific, and philosophic progress. The savage, with his small and undeveloped cerebrum, plays all summer, like the grasshopper in the fable, eating and wasting whatever he can get; for although he knows that the dreaded winter is coming, during which he must starve and shiver, he is nevertheless unable to realize these distant feelings with sufficient force to determine his volition in the presence of his actual feeling of repugnance to toil. But the civilized man, with his large and complex cerebrum, has so keen a sense of remote contingencies that he willingly submits to long years of drudgery, in order to avoid poverty in old age, ys out each year a portion of his hard-earned money to pro-ide for losses by fire which may never occur, builds houses nd accumulates fortunes for posterity to enjoy, and now and then enacts laws to forestall possible disturbances or usurpations a century hence. Again, the progress of scientific knowledge, familiarizing civilized man with the idea of an inexorable regularity of sequence among events, greatly assists him in the adjustment of his actions to far-distant emergencies. He who ascribes certain kinds of suffering to antecedent neglect of natural laws is more likely to shape his conduct so as to avoid a recurrence of the infliction, than he who attributes the same kinds of suffering to the wrath of an offended Deity, and fondly hopes, by ceremonial propitiation of the Deity, to escape in future.

This power of shaping actions so as to meet future contingencies has been justly recognized by political economists as an indispensable prerequisite to the accumulation of wealth in any community, without which no considerable degree of progress can be attained. The impossibility of getting barbarians to work, save under the stimulus of actually present necessities, has been one of the chief obstacles in the way of missionaries who have attempted to civilize tribal communities. The Jesuits, in the seventeenth century, were the most successful of Christian missionaries, and their proceedings with the Indians of Paraguay constitute one of the most brillian feats in missionary annals. Such unparalleled ascendency di the priests acquire over the imaginations of these barbaria that they actually made them cease from warfare. They tau them European methods of agriculture, as well as the ar house-building, painting, dyeing, furniture-making, even use of watches; and they administered the affairs of the munity with a despotic power which has seldom been eq either in absoluteness or in beneficence. Neverthele superficiality of all this show of civilization was illustr the fact that, unless perpetually watched, the workme go home leaving their oxen yoked to the plough, or wo cut them up for supper, if no other meat happened hand. Examples of a state of things intermediat this barbaric improvidence and the care-taking fores

European are to be found among the Chinese, — a people who have risen far above barbarism, but whose civilization is still of a primitive type. The illustration is rendered peculiarly forcible by the fact that the Chinese are a very industrious people, and where the returns for labor are immediate will work as steadily as Germans or Americans. Owing to their crowded population, every rood of ground is needed for cultivation, and upon their great rivers the traveller continually meets with little floating farms constructed upon rafts and held in place by anchors. Yet side by side with these elaborate but fragile structures are to be seen acres of swamp-land which only need a few years of careful draining to become permanently fit for tillage. So incapable are the Chinese of adapting their actions to sequences at all remote, that they continue, age after age, to resort to such temporary devices, rather than to bestow their labor where its fruits, however enduring, cannot be enjoyed from the outset.* The contrast proves that the cause is the intellectual inability to realize vividly a group of future conditions, involving benefits not immediately to be felt.

Of the correspondence in time, even more forcibly than of the correspondence in space, it may be said that its extension during the process of social evolution has been much greater than during the organic evolution of the human race from some ancestral primate. Between the Australian, on the one hand, who cannot estimate the length of a month, or provide even for certain disaster which does not stare him in the face, and whose theory of things is adapted only to events which occur during his own lifetime; and, on the other hand, the European, with his practical foresight, his elaborate scientific previsions, and his systems of philosophy, which embrace alike the earliest traceable cosmical changes and the latest results of civilization; the intellectual gulf is certainly far wider than that which divides the Australian from the fox, who hides the bird which he has killed, in order to return when hungry to eat it.

It remains to add that the later and more conspicuous stages of this kind of intellectual progress have obviously been determined by the increase in the size and heterogeneity of the social environment. For the integration of communities to whic this increase is due has not only indirectly aided the advance in scientific knowledge requisite for making mental adjustment to long sequences, past and future, but it has also directly assisted the disposition to work patiently in anticipation of futur returns, by increasing the general security and diminishing th chances that the returns to labor may be lost.

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* See Mill, Political Economy, Book I. chap. xi.

The extension of the correspondence between subjective an objective relations in time and in space answers to that kind o primary integration which underlies the process of evolution general. In treating of the enlarged area, in time and spac throughout which inner relations are adjusted to outer relation we have been treating of intellectual progress regarded as growth. But in proceeding to speak of the increasing heterogeneity, definiteness, and coherence of the adjustments, we proceed to treat of intellectual progress regarded as a development. Here, as elsewhere, throughout all save the simplest orders of evolution, quantitative inerease is accompanied by qualitative increase. The knowledge is not only greater and the intellectual capacity greater, but the knowledge is more complex, accurate, and unified, and the intellectual capacity is more varied.

The increase of the correspondence in definiteness may be sufficiently illustrated by the following brief citation from Mr. Spencer: "Manifestly the reduction of objective phenomena to definite measures gives to those subjective actions that correspond with them a degree of precision, a special fitness, greatly beyond that possessed by ordinary actions. There is an immense contrast in this respect between the doings of the astronomer who, on a certain day, hour, and minute, adjusts hi instrument to watch an eclipse, and those of the farmer who arranges his work that he may have hands enough for reapi some time in August or September. The chemist who cal lates how many pounds of quicklime will be required to compose and precipitate all the bicarbonate of lime whic water in a given reservoir contains in a certain percentag hibits an adjustment of inner to outer relations incomp more specific than does the laundress who softens a tu hard water by a handful of soda. In their adaptations ernal coexistences and sequences, there is a wide difference etween the proceedings of ancient besiegers, whose battering-ams were indeterminate in their actions, and those of modern rtillery officers, who, by means of a specific quantity of pow- er, consisting of specific ingredients, in specific proportions, laced in a tube at a specific inclination, send a bomb of specific eight on to a specific object, and cause it to explode at a spe- ific moment."* It only remains to note that the difference specific accuracy, here illustrated by contrasting the opera- ions of science with those of ordinary knowledge, is equally onspicuous when, on a somewhat wider scale, we contrast the roceedings, both scientific and artistic, of civilized men with he proceedings of the lowest savages. The most ignorant an in New England probably knows in June that winter is ust six months distant; the Australian, to whom, as to the ivilized child, time appears to go slowly, knows only that it is long way off. So, too, the crude knives and hammers and he uncouth pottery of primeval men are distinguished alike y their indefiniteness of contour and by their uselessness in perations which require specific accuracy. And here, as be- ore, in the extreme vagueness and lack of speciality, both in is knowledge and in the actions which are guided by it, the rimeval man appears to stand nearer to the highest brutes han to the civilized moderns.

Along with this increase in specialization, entailing greater definiteness of adjustment, there goes on an increase in gener- lization, involving an increased power of abstraction, of which arely the germs are to be found either in the lowest men or in other highly organized mammals. The inability of savage races to make generalizations involving any abstraction is sufficiently proved by the absence or extreme paucity of abstract expressions in their languages. As Mr. Farrar observes, "The Society-Islanders have words for dog's tail, bird's tail, and sheep's tail, yet no word for tail; the Mohicans have verbs for every kind of cutting, and yet no verb 'to cut.' The Australians have no generic term for fish, bird, or tree. The Malays have no term for tree or herb, yet they have words for fibre, root, tree-crown, stalk, stock, trunk, twig, and sho Some American tongues have separate verbs for 'I wish to meat,' and 'I wish to eat soup,' but no verb for 'I wish'; a separate words for a blow with a sharp and a blow with a bl instrument, but no abstract word for blow."* Between stage of intellectual progress thus illustrated and that in wh an unlimited capacity for generalization produces such wo as "individuation" or "equilibration," the contrast is s ciently obvious; and it fully confirms our theorem, that th amount of intellectual progress achieved since man bec human far exceeds that which was needed to transfer him from apehood to manhood.

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* Spencer, Psychology, I. 340.

The increase of the correspondence in complexity, already illustrated incidentally in the treatment of these other aspects of the case, is still further exemplified in the growing complication of the interdependence between science and the arts. When tracing the complexity of correspondence through the lower stages of the evolution of intelligence in the animal kingdom, Mr. Spencer hints that the evolution of the executive faculties displayed in the organs of prehension and locomotion is closely related to that of the directive faculties displayed in the cephalic ganglia and in the organs of sense. The parallelism may be summed up in the statement that in most, if not all, the principal classes of the animal kingdom, the animals with the most perfect prehensile organs are the most intelligent. Thus the cuttle-fish is the most intelligent of mollusks, and the crab similarly stands at the head of crustaceans, while the parrot outranks all other birds alike in sagacity and in power of handling things, and the ape and elephant are, with the exception of man, the most sagacious of mammals.† Of the human race, too, it may be said that, although Anaxagoras was wrong in asserting that brutes would have been men had they had hands, he might safely have asserted that without hands men could never have become human. Now this interdependence of the directive and executive faculties is continued throughout the process of social evolution in the shape of the interdependence of the sciences and the arts. "We may properly ay that, in its higher forms, the correspondence between the rganism and its environment is effected by means of supplementary senses and supplementary limbs. . . . . The magnifying-glass adds but another lens to the lenses existing in the ye. The crow-bar is but one more lever attached to the series f levers forming the arm and hand. And the relationship, which is so obvious in these first steps, holds throughout." We may, indeed, go still deeper, and say that science is but an xtension of our ordinary sense-perceptions by the aid of rea- oning, while art is but an extension of the ordinary function of our muscular system, of expressing our psychical states by means of motion. Hence it is that "each great step towards a knowledge of laws has facilitated men's operations on things; while each more successful operation on things has, by its results, facilitated the discovery of further laws." Hence the sciences and arts, originating together, — as in the cases of "astronomy and agriculture, geometry and the laying out of buildings, mechanics and the weighing of commodities," — have all along reached upon each other, in an increasing variety of ways. It is sufficient to mention the reciprocal connections between navigation and astronomy, between geology and mining, between chemistry and all the arts; while telescopes and microscopes illustrate the truth that "there is scarcely an observation now made in science, but what involves the use of instruments supplied by the arts; while there is scarcely an art process but what involves some of the provisions of science." Just as in organic evolution we find the mutual dependence of the directive and executive faculties ever increasing, so that "complete visual and tactual perceptions are impossible without complex muscular adjustments, while elaborate actions require the constant overseeing of the senses"; so in social evolution we find between science and art an increasing reciprocity "such that each further cognition implies elaborate operative aid, and each new operation implies sundry elaborate cognitions." I need only add that, in this as in the other aspects of intellectual progress, the increase in complexity of adjustment achieved during the process of social evolution is far greater than that achieved during the immediately preceding stages of the process of organic evolution. Between the ape and the primitive man, with his rude levers and hatchets and his few simple previsions, the difference in complexity of correspondence is obviously less than between the primitive man and the modern, with his steam-hammers and thermo-electric multipliers, and his long list of sciences and sub-sciences, any one of which it would take much more than a lifetime to master in detail.

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* Chapters on Language, p. 199.

† Spencer, Psychology, I. 368–372.

We have thus passed in review the various aspects of intellectual progress, regarded as a process of adjustment of inner to outer relations, and we have seen that in all the most essential features of this progress there is a wider difference between the civilized man and the lowest savage than between the savage and the ape. It appears that those rare and admirable qualities upon which we felicitate ourselves as marks which absolutely distinguish us from brute animals, have been slowly acquired through long ages of social evolution, and are shared only to a quite insignificant extent by the lowest contemporary races of humanity. As long as we regard things statically, as forever fixed, we may well imagine an impassable gulf between ourselves and all other forms of organic existence. But as soon as we regard things dynamically, as forever changing, we are taught that the gulf has been for the most part established during an epoch at the very beginning of which we were zoölogically the same that we now are.

The next step in our argument will be facilitated by an inquiry into the common characteristic of the various intellectual differences between the civilized and the primitive man which we have above enumerated. The nature of this characteristic was hinted at when we were discussing the improvidence of the barbarian. It was observed that the power of distinctly imagining objective relations not present to sense is the most fundamental of the many intellectual differences between the civilized man and the barbarian. Making this statement somewhat wider, we may now safely assert that the entire intellectual superiority of the civilized man over the savage, or of the modern man over the primeval man, is summed up in his superior power of *representing* that which is not present to the senses. For it is not only in what we call providence that this superiority of representation shows itself, but lso in all those combinations of present with past impressions hich accompany the extension of the correspondence in space nd time, and its increase in heterogeneity, definiteness, and herence. It is his ability to reproduce copies of his own anished states of consciousness, and of those of his fellows, at enables the civilized man to adjust his actions to sequences curring at the antipodes. It is the same power of represen- tion which underlies his power of forming abstract and gen- al conceptions. For the peculiarity of abstract conceptions that "the matter of thought is no longer any one object, or y one action, but a trait common to many"; and it is, there- re, only when a number of distinct objects or relations possess- g some common trait can be represented in consciousness at there becomes possible that comparison which results in e abstraction of the common trait as the object of thought. bviously, then, the greater the power of abstraction and gen- alization which is observed, the greater is the power of repre- ntation which is implied. The case is the same with that efiniteness of the intellectual processes which we have noted s distinguishing modern from primitive thinking. For the onception which underlies definiteness of thinking is the con- eption of *exact likeness*,—a highly abstract conception which an only be framed after the comparison of numerous repre- ented cases in which degree of likeness is the common trait hat is thought about. Hence not only the improvidence of he savage, but likewise the vagueness of his conceptions, his inability to form generalizations involving abstraction, and the limited area covered by his adjustments are facts which one and all find their ultimate explanation in his relative incapacity for calling up representative states of consciousness.

From this same incapacity results that inflexibility of thought in which the savage resembles the brute, and which is one of the chief proximate causes of his unprogressiveness. "One of the greatest pains to human nature," says Mr. Bagehot, "is the pain of a new idea." This pain, which only to a few of the most highly cultivated minds in the most highly civilized communities has ceased to be a pain and become a pleasure, is to the savage not so much a pain as a numbing or paralyzing shock. To rearrange the elements of his beliefs is for the uncivilized man an impossible task. It is not so much that [illegible] does not dare to sever some traditional association of ideas which he was taught in childhood, as it is that he is incapable of holding together in thought the clusters of representations with the continuity of which the given association is incompatible. This important point is so ably and succinctly stated by Mr. Spencer, that I cannot do better than quote his exposition entire. After reminding us that "mental evolution, both intellectual and emotional, may be measured by the degree of remoteness from primitive reflex action," Mr. Spencer observes that "in reflex action, which is the action of nervous structures that effect few, simple, and often-repeated co-ordinations, the sequent nervous state follows irresistibly the antecedent nervous state; and does this not only for the reason that the discharge follows a perfectly permeable channel, but also for the reason that no alternative channel exists. From this stage, in which the psychical life is automatically restrained within the narrowest limits, up through higher stages in which increasing nervous complexities give increasing varieties of actions and possibilities of new combinations, the process continues the same; and it continues the same as we advance from the savage to the civilized man. For where the life furnishes relatively few and little-varied experiences, where the restricted sphere in which it is passed yields no sign of the multitudinous combinations of phenomena that occur elsewhere, the thought follows irresistibly one or other of the few channels which the experiences have made for it, — cannot be determined in some other direction for want of some other channel. But as fast as advancing civilization brings more numerous experiences to each man, as well as accumulations of other men's experiences, past and present, the ever-multiplying connections of ideas that result imply ever-multiplying possibilities of thought. The convictions throughout a wide range of cases are rendered less fixed. Other causes than those which are usual become conceivable; other effects can be imagined; and hence there comes an increasing modifiability of opinion. This modifiability of opinion reaches its extreme in those most highly cultured whose multitudinous experiences include many experiences of errors discovered, and whose representativeness of thought is so far-reaching that they habitually call to mind the various possibilities of error, as constituting a general reason for seeking new evidence and subjecting their conclusions to revision.

"If we glance over the series of contrasted modes of thinking which civilization presents, beginning with the savage who, seized by the fancy that something is a charm or an omen, thereafter continues firmly fixed in that belief, and ending with the man of science whose convictions, firm where he is conscious of long-accumulated evidence having no exception, are plastic where the evidence though abundant is not yet overwhelming, we see how an increase in freedom of thought goes along with that higher representativeness accompanying further mental evolution." *

If now we inquire for a moment into the causes of this higher representativeness of civilized thinking, we shall see most beautifully exemplified the way in which intellectual progress, as it goes on in the human race, is determined by social evolution. Intellectual progress is indeed a cause as well as a consequence of the evolution of society; but amid the dense entanglement of causes and effects our present purpose requires us to single out especially the dependence of progress in representativeness upon social complexity, since herein will be found the secret of the mental pre-eminence of civilized man. Now the integration of small tribes into larger and more complex social aggregates, which is the fundamental phenomenon in civilization, tends directly to heighten representativeness of thinking by widening and varying the experiences of the members of society. The member of a savage tribe must think indefinitely, concretely, rigidly, improvidently, because his intellectual experiences are so few in number and so monotonous in character. Increase in social complexity renders possible, or indeed directly produces, fresh associations of ideas in greater and greater variety and abundance, so that the decomposition and recombination of thoughts involved in abstraction and generalization is facilitated; and along with this, the definiteness and the plasticity of thought is increased,

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* Spencer, Psychology, Vol. II. p. 524.

and the contents of the mind become representative in higher and higher degrees. Thus in every way it is brought before us that sociality has been the great agent in the achievement of man's intellectual pre-eminence, and that it has operated by widening and diversifying human experience, or, in other words, by increasing the number, remoteness, and heterogeneity of the environing relations to which each individual's actions have had to be adjusted. An inquiry into the genesis of sociality will therefore best show us how the chasm which divides man intellectually from the brute is to be crossed.

But before we proceed to this somewhat lengthy and circuitous inquiry, we may profitably contemplate under a new aspect the intellectual difference which we have assigned as the fundamental one between civilized and primeval man. We have observed that the intellectual superiority of man over brute and of the civilized man over the barbarian essentially consists in a greater capacity for mentally representing objects and relations remote from sense. And we have insisted upon the point that in this capacity of representation the difference between the highest and lowest specimens of normal humanity known to us far exceeds the difference between the lowest men and the highest apes. Now in closest connection with these conclusions stands the physical fact that the chief structural difference between man and ape, as also between civilized and uncivilized man, is the difference in size and complexity of cerebrum. The cerebrum is the organ especially set apart for the compounding and recompounding of impressions that are not immediately sensory. The business of co-ordinating immediately presentative impressions is performed by the medulla and other subordinate centres. The cerebrum is especially the organ of that portion of psychical life which is entirely representative. Obviously, then, the progress to higher and higher representativeness ought to be accompanied by a well-marked growth of the cerebrum relatively to the other parts of the nervous system. Now, in the light of the present argument, how significant is the fact that the cranial capacity of the modern Englishman surpasses that of the aboriginal non-Aryan Hindu by a difference of sixty-eight cubic inches, while between this Hindu skull and the skull of the gorilla the erence in capacity is but eleven cubic inches! That is to , the difference in volume of brain between the highest and lowest men is at least six times as great as the difference ween the lowest men and the highest apes. And if we e to take into account the differences in structural com- city, as indicated by the creasing and furrowing of the in-surface, we should obtain a yet more astonishing con- t. Yet, powerfully as this anatomical fact confirms the tion we have all along been upholding, its full value will be apparent if we are so dazzled by it as to overlook the ificance of the lesser difference between the gorilla and the riginal inhabitant of India. As the Duke of Argyll very perly observes, we do right in setting a higher value in sification upon the eleven inches which intervene between gorilla and the Hindu than upon the sixty-eight inches ch intervene between the Hindu and the Englishman. For e significance set by the facts of nature upon that difference of eleven cubic inches . . . . is the difference between irrational brute confined to some one climate and to some ited area of the globe, — which no outward conditions can dify or improve, — and a being equally adapted to the ole habitable world, with powers, however undeveloped, of parison, of reflection, of judgment, of reason, with a sense right and wrong, and with all these capable of accumu- ed acquisition, and therefore of indefinite advance.” Though siderably exaggerated in what it denies to the brute, and l more in what it claims for the aboriginal man, this state- nt contains a kernel of truth which is of value for our sent purpose, and which is further illustrated by the fact t a minimum of brain-substance “is constantly and uni- mly associated with all the other anatomical peculiarities of n. Below that minimum the whole accompanying struct- undergoes far more than a corresponding change, — even whole change between the lowest savage and the highest . Above that minimum, all subsequent variations in quan- are accompanied by no changes whatever in physical ucture.”* Here again, though the antithesis is a little too absolutely stated, we have set before us a real distinction. Up to a certain point, the brain and the rest of the body are alike alterable by natural selection and such other agencies as may be concerned in the slow modification of organisms. But when the brain has reached a certain point in size and complexity, the rest of the body ceases to change, save in a few slight particulars, and the agencies concerned in forwarding the process of evolution seem to confine themselves to the brain, and specially to the cerebrum, — the result being marked psychical development, unattended by any notable physical alteration. Here we have reached a fact of prime importance. We may grant to the Duke of Argyll that when those eleven additional cubic inches of brain had been acquired, some kind of a Rubicon had been crossed, and a new state of things inaugurated. What was that Rubicon?

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* Duke of Argyll, Primeval Man, pp. 57 – 64.

The answer has been furnished by Mr. Wallace, and must rank as one of the most brilliant contributions ever yet made to the Doctrine of Evolution. Since inferior animals respond chiefly by physical changes to changes in their environment, natural selection deals chiefly with such changes, to the visible modification of their bodily structure. In the case of sheep or bears, for instance, increased cold can only select for preservation the individuals most warmly coated; or if a race of lions, which has hitherto subsisted upon small and sluggish ruminants until these have been nearly exterminated, is at last obliged to attack antelopes and buffaloes, natural selection can only preserve the swiftest and strongest or most ferocious lions. But when an animal has once appeared, endowed with sufficient intelligence to chip a stone tool and hurl a weapon, natural selection will take advantage of variations in this intelligence, to the neglect of purely physical variations. Communities whose members are best able to meet by intelligent contrivances the changes in the environment will prevail over other communities, and will be less easily destroyed by physical catastrophes. Still more strikingly must this superior availability of variations in intelligence be exemplified, when the intelligence has progressed so far as to sharpen spears, to use rude bows, to dig pitfalls, to cover the body with leaves or skins, and to strike fire by rubbing sticks, according to the Indian version of the myth of Prometheus.

So soon, in short, as the intelligence of an animal has, through ges of natural selection and direct adaptation, become so coniderable that a slight variation in it is of more use to the animal than any variation in physical structure, then such variations will be more and more constantly selected, while purely hysical variations, being of less vital importance to the species, will be more and more neglected. Thus, while the external ppearance of such an animal, and the structure of his internal utritive and muscular apparatus, may vary but little in many ges, his cerebral structure will vary with comparative rapidity, ntailing a more or less rapid variation in intellectual and emotional attributes.

Here we would seem to have the key to the singular contrast n the relations of man to contemporary anthropoid apes. We may now understand why man differs so little, in general physcal structure and external appearance, from the chimpanzee and gorilla, while, with regard to the special point of cerebral structure and its correlative intelligence, he differs so vastly from these, his nearest living congeners, and the most sagacious of animals save himself. Coupled with what we now know concerning the immense antiquity of the human race, Mr. Wallace's brilliant suggestion goes far to bridge over the interval, which formerly seemed so impracticable, between brute and man. If we take the thousands of centuries during which the human race has covered both the eastern and the western hemispheres, and compare with them the entire duration of recorded human history, we shall have set before us a profitable subject of reflection. Since the period during which man has possessed sufficient intelligence to leave a traditionary record of himself is but an infinitesimal fraction of the period during which he has existed upon the earth, it is but fair to conclude that, during those long ages of which none but a geologic record of his existence remains, he was slowly *acquiring* that superior intelligence which now so widely distinguishes him from all other animals. Throughout an enormous period of time, his brain-structure and its correlated intellectual and emotional functions must have been constantly modified both by natural selection and by direct adaptation, while his outward physical appearance has undergone few modifications;

and of these the most striking would seem to be directly or indirectly consequent upon the cerebral changes.*

It is a corollary from the foregoing considerations, that no race of organisms can in future be produced through the agency of natural selection and direct adaptation which shall be zoologically distinct from, and superior to, the human race. As the same causes which physically modify lower species have, for countless ages, modified man directly and greatly in intelligence and only indirectly and slightly in physical constitution, it follows that mankind is destined to advance during future ages in psychical attributes, but is likely to undergo only slight changes in outward appearance. It is by the co-ordination of intellectual and moral relations that man maintains himself in equilibrium with the physical, intellectual, and moral relations arising in his ever-changing environment. And hence in the future, as in the recent past, the dominant fact in the career of humanity is not physical modification, but CIVILIZATION.

Here we are brought to the verge of that profound theory of civilization which I have elsewhere sought to elucidate.† We have touched upon a grand truth, of which it would be difficult to overrate the importance. For we can now admit — not as a concession to Mr. St. George Mivart, but as a legitimate result of our own method of inquiry — that when "the totality f man's being" is taken into the account, the difference beveen ape and mushroom is less important than the difference etween ape and man. And without conceding aught to that iperlative nonsense known as the "doctrine of special creaons," we may admit, with the Duke of Argyll, that the eleven ibic inches of brain-space, by which the aboriginal Hindu surasses the gorilla, have a higher value, for purposes of classifiation, than the sixty-eight cubic inches by which the modern nglishman surpasses the Hindu. We now see what kind of Rubicon it was which was crossed when those eleven cubic iches of brain (or even when four or five of them) had been ained. The crossing of the Rubicon was the point at which atural selection began to confine itself chiefly to variations in sychical manifestation. The ape-like progenitor of man, in hom physical and psychical changes had gone on *pari passu* for ountless æons, until he had reached the grade of intelligence mplied by the possession of a brain four or five cubic inches ore capacious than that of the gorilla, had now, as we may uppose, obtained a brain upon which could be devolved, to a reater and greater extent, the task of maintaining relations ith the environment. Then began a new chapter in the hisory of the evolution of life. Henceforward the survival of the ittest, in the line of man's ancestry, was the survival of the erebrums best able to form representative combinations. The gencies which had hitherto been at work in producing an oranic form endowed with rare physical capacities, now began teadfastly to labor in producing a mind capable to a greater nd greater extent of ideally resuscitating and combining relaions not present to the senses.

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* To the general observer, as to the anatomist, the most notable points of difference between civilized and uncivilized man, as well as between man and the chimpanzee or gorilla, are the differences in the size of the jaws and the inclination of the forehead. The latter difference is directly consequent upon increase of intelligence; and the former is indirectly occasioned by the same circumstance. For the diminution of the jaws, entailed by civilization, is, no doubt, primarily due to disuse; and the disuse is occasioned partly by difference in food, and partly by the employment of tools, and the consequent increased reliance upon the hands as prehensile organs. All these circumstances are the result of increased intelligence. And in addition to this, it is probable that increased frontal development has directly tended, by correlation of growth, to diminish the size of the jaws, as well as to push forward the bridge of the nose. To the increased reliance upon the hands as prehensile organs — a circumstance which we have seen to be in an especial degree characteristic of developing intelligence — is probably also due the complete attainment of the erect position of the body, already partially obtained by the anthropoid apes. Cerebral development thus accounts for all the conspicuous physical peculiarities of man except his bare skin, — a phenomenon for which no satisfactory explanation has yet been suggested.

† See "The Laws of History," North American Review, July, 1869.

But immense as was the step thus achieved in advance, the rogress from brute to man was not yet accomplished. As we ave already shown, the circumstances which by widening and iversifying experience have mainly contributed to heighten an's faculty of representativeness, have been for the most part circumstances attendant upon man's sociality, or the capacity of individuals for aggregating into communities of increasing extent and complexity. Here we become involved in considerations relating to the emotions as well as to the intelligence. The capacity for sustaining the various relationships implied by the existence of a social aggregate — whether in the case of a primeval family community or of a modern nation — cannot be explained without taking into account the genesis of those moral feelings by the possession of which man has come to differ from the highest brutes even more conspicuously than by his purely intellectual achievements. The task now before us, therefore, is to explain the genesis of the moral feelings which lie at the bottom of sociality in the human race; and with reference to this question I shall presently have a suggestion to offer, which will be found as serviceable as it is interesting and novel. Let us for the moment, however, consider the implications of current ethical theories, and especially let us examine the scientific basis of what is too crudely designated as utilitarianism.

II.

There are two things, said Kant, which fill me with awe because of their sublimity, — the starry heavens above us, and the moral law within us. From the modern point of view there is interest as well as instruction to be found in the implied antithesis. While in the study of the stellar universe we contemplate the process of evolution on a scale so vast that reason and imagination are alike baffled in the effort to trace out its real significance, and we are overpowered by the sense of the infinity that surrounds us; on the other hand, in the study of the moral sense we contemplate the last and noblest product of evolution which we can ever know, — the attribute latest to be unfolded in the development of psychical life, and by the possession of which we have indeed become as gods, knowing the good and the evil. The theorems of astronomy and the theorems of ethics present to us the process of evolution in its extremes of extension and of intension respectively. For although upon other worlds far out in space there may be modes of existence immeasurably transcending humanity, yet these must remain unknowable by us. And while this possibility should be allowed its due weight in restraining us from the vain endeavor to formulate the infinite and eternal Sustainer of the universe in terms of our own human nature, as if the highest symbols intelligible to us were in reality the highest symbols, nevertheless it can in no way influence or modify our science. To us the development of the noblest of human attributes must ever remain the last term in the stupendous series of cosmic changes, of which the development of planetary systems is the first term. And our special synthesis of the phenomena of cosmic evolution, which began by seeking to explain the genesis of the earth and its companion worlds,* will be fitly concluded when we have offered a theory of the genesis of those psychical activities whose end is to secure to mankind the most perfect fulness of life upon this earth which is its dwelling-place.

The great philosopher whose remark has suggested these reflections would not, however, have been ready to assent to the interpretation here given. Though Kant was one of the chief pioneers of the doctrine of evolution, having been the first to propose and to elaborate in detail the theory of the nebular origin of planetary systems, yet the conception of a continuous development of life in all its modes, physical and psychical, was not sufficiently advanced, in Kant's day, to be adopted into philosophy. Hence in his treatment of the mind, as regards both intelligence and emotion, Kant took what I have elsewhere called a statical view of the subject; and finding in the adult civilized mind, upon the study of which his systems of psychology and ethics were founded, a number of organized moral intuitions and an organized moral sense, which urges men to seek the right and shun the wrong, irrespective of utilitarian considerations of pleasure and pain, he proceeded to deal with these moral intuitions and this moral sense as if they were ultimate facts, incapable of being analyzed into simpler emotional elements. Now as the following exposition may look like a defence of utilitarianism, it being really my intention to show that utilitarianism in the deepest and widest sense is the ethical philosophy imperatively required by the facts, it is well to state, at the outset, that the existence of a moral sense and moral intuitions in civilized man is fully granted. It is admitted that civilized man possesses a complex group of emotions, leading him to seek the right and avoid the wrong, without any reference to considerations of utility; and I disagree entirely with those utilitarian disciples of Locke, who would apparently refer these ethical emotions to the organization of experiences of pleasure and pain in the case of each individual. So long as the subject is contemplated from a statical point of view, so long as individual experience is studied without reference to ancestral experience, the follower of Kant can always hold his ground against the follower of Locke, in ethics as well as in psychology. When the Kantian asserts that the intuitions of right and wrong, as well as the intuitions of time and space, are independent of experience, he occupies a position which is impregnable, so long as the organization of experiences through successive generations is left out of the discussion. But as soon as we begin to study the subject dynamically, everything is shown up in a new light. Admitting the truth of the Kantian position, that there exists in us a moral sense, for analyzing which our individual experience does not afford the requisite data, and which must therefore be regarded as ultimate for each individual, it is nevertheless open to us to inquire into the emotional antecedents of this organized moral sense as exhibited in ancestral types of psychical life. The inquiry will result in the conviction that the moral sense is not ultimate, but derivative, and that it has been built up out of slowly organized experiences of pleasures and pains.

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* The reference is to the unpublished chapter on Planetary Evolution.

But before we can proceed directly upon the course thus marked out, it is necessary that we should determine what are meant by pleasures and pains. What are the common characteristics, on the one hand, of the states of consciousness which we call pleasures, and, on the other hand, of the states of consciousness which we call pains? According to Sir William Hamilton, "pleasure is a reflex of the spontaneous and unimpeded exertion of a power of whose energy we are conscious; pain is a reflex of the overstrained or repressed exertion of such a power." That this theory, which is nearly identical with that of Aristotle, is inadequate to account for all the phenomena of pleasure and pain, has been, I think, conclusively proved by Mr. Mill. With its complete adequacy, however, we need not now concern ourselves; as we shall presently see that a different though somewhat allied statement will much better express the facts in the case. Hamilton's statement, however inadequate, is illustrated by a number of truths which for our present purpose are of importance. A large proportion of our painful states of consciousness are attendant upon the inaction, or what Hamilton less accurately calls the "repressed exertion," of certain organic functions. According to the character of the functions in question, these painful states are known as cravings or yearnings. Inaction of the alimentary canal and that molecular inaction due to deficiency of water in the system are attended by feelings of hunger and thirst, which vary from slight discomfort to intense agony according as the inaction is prolonged. Of kindred character are the acquired cravings for tobacco, alcohol, and other narcotics. Inaction of the muscles causes great discomfort in children who are compelled to sit still, and grown persons feel similar annoyance when the enforced stillness is long enough kept up. Prisoners kept in dark cells soon feel an intense craving for light, which in time becomes scarcely less intolerable than raging hunger. A similar explanation suffices for the emotional yearnings involved in home-sickness, ennui, deprivation of the approval of our fellow-creatures, or in separation from our favorite pursuits. All these painful states are due to the enforced inaction of certain feelings, social or æsthetic. And in similar wise, as Mr. Spencer observes, the bitter grief attendant upon the death of a friend results from the ideal representation of a future in which certain groups of habitual emotions must remain inactive or unsatisfied by outward expression.

The objection may be made that all this is but an elaborate way of saying that certain pains result from the deprivation of certain pleasures. But since such an objection, in its very statement, recognizes that certain kinds of unimpeded activity, physical or psychical, are pleasures, it need not disturb us, or lead us to underestimate the value of Hamilton's suggestion. Let us note next that excessive action of any function, equally with deficient action, is attended by pain. Local pain results from intensified sensations of heat, light, sound, or pressure; and though it may be in some cases true, as Mr. Spencer asserts, that sweet tastes are not rendered positively disagreeable by any degree of intensity,* the alleged fact seems contrary to my own experience, and to that of several other persons whom I have questioned. Other local pains, as in inflammation and sundry other forms of disease, are apparently due to increased molecular activity in the parts affected. And the feelings of pain or discomfort, both local and systemic, attendant upon over-exercise, over-eating, or excessive use of a narcotic, are to be similarly explained.

Thus we may say that pleasure, generally speaking, is "the concomitant of an activity which is neither too small nor too great," and we get at the significance of the Epicurean maxim, *μηδὲν ἄγαν*. But this doctrine, as already hinted, is by no means complete. For, as Mr. Mill and Mr. Spencer ask, "What constitutes a medium activity? What determines that lower limit of pleasurable action below which there is craving, and that higher limit of pleasurable action above which there is pain?" And furthermore, "how happen there to be certain feelings (as among tastes and odors) which are disagreeable in all degrees of intensity, and others that are agreeable in all degrees of intensity?" † The answer, as Mr. Spencer shows, is to be sought in the study of the past conditions under which the feelings have been evolved.

If the tentacles of a polyp are rudely struck by some passing or approaching body, the whole polyp contracts violently in such a manner as to throw itself slightly out of the way; but if a fragment of assimilable food, floating by, happens to touch one of the tentacles gently, the tentacle grasps it and draws it slowly down to the polyp's digestive sac. Now between these contrasted actions there is no such psychical difference as accompanies the similarly contrasted human actions of taking food and ducking the head to avoid a blow; for the polyp's contractions, being simply reflex actions of the lowest sort, are unattended by states of consciousness, either agreeable or disagreeable. Nevertheless there is one respect in which the two cases perfectly agree. In both cases there is a seeking of that which is beneficial to the organism, and a shunning of that which is injurious. And while, in the case of the polyp, there is no

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[*] Spencer, Psychology, I. 276.

[†] Ibid. 277.

conscious pleasure or pain, we may fairly surmise that, as soon as any animal's psychical life becomes sufficiently complex to be attended by distinct states of consciousness, the presence of that which is beneficial is accompanied by a pleasurable feeling which leads to the seeking of it, while the presence of that which is injurious is accompanied by a painful feeling which leads to the shunning of it. Our surmise is strengthened as we reconsider the human actions lately enumerated, and observe that the abnormal activity of a function, either in deficiency or in excess, is injurious, while the normal activity of a function in balance with its companion functions is beneficial. As Mr. Spencer says, "in a mutually dependent set of organs having a consensus of functions, the very existence of a special organ having its special function implies that the absence of its function must cause disturbance of the consensus, — implies, too, that its function may be raised to an excess which must cause disturbance of the consensus, — implies, therefore, that maintenance of the consensus goes along with a medium degree of its function." In accordance with this view, we may note that hunger and thirst are feelings attendant upon a kind of functional inaction which is harmful, and even fatal if prolonged; that inaction or excessive action of the muscles is injurious as well as painful; that the intense heat and cold, and the violent pressure, which cause distress, will also cause more or less injury, and may cause death; that the discomfort following repletion and narcosis is the concomitant of a state of things which, if kept up, must end in dyspepsia, or other forms of disease, entailing usually a permanent lowering of nutrition; and that the intense sounds and lights which distress the ear and eye also tend to produce deafness and blindness. And in like manner, the enforced inaction of the social and æsthetic feelings, which is attended by mental discomfort, is also attended in the long run by a diminution of the fulness and completeness of psychical life, which in extreme cases may result in consumption, insanity, or narcotic craving.

It would seem, therefore, that the class of cases upon which Hamilton relied will justify an interpretation much deeper than the one which he proposed for them. They will apparently justify us in asserting that pleasure is a state of consciousness accompanying modes of activity which tend to increase the fulness of life of an organism, while pain is a state of consciousness accompanying modes of activity which tend to diminish the fulness of life. Before considering the objections to this doctrine, — which, though at first sight formidable, will disappear on further analysis, — let us note, with Mr. Spencer, that, on the theory of evolution, "races of sentient creatures could have come into existence under no other conditions." Omitting the cases which, in human psychology, are complicated by the foresight of remote or inconspicuous consequences, Mr. Spencer observes that pleasure is "a feeling which we seek to bring into consciousness and retain there," while pain is "a feeling which we seek to get out of consciousness and to keep out." Hence it follows that "if the states of consciousness which a creature endeavors to maintain are the correlatives of injurious actions, and if the states of consciousness which it endeavors to expel are the correlatives of beneficial actions, it must quickly disappear through persistence in the injurious and avoidance of the beneficial." In other words, even supposing a race of animals could come into existence, which should habitually seek baneful actions as pleasurable, and shun useful actions as painful, natural selection would immediately exterminate it. Our supposition is therefore a hibernicism; under the operation of natural selection no such race could ever come into existence. Only those races can exist whose feelings, on the average, result in actions which are in harmony with environing relations. Accordingly we may rest upon a still deeper and firmer basis our doctrine of pleasure and pain, and assert that pleasure is a state of consciousness accompanying the relatively complete adjustment of inner to outer relations, while pain is a state of consciousness attendant upon the discordance between inner and outer relations.

We may now consider a class of facts which at first seem inconsistent with the theory, but which in reality serve further to illustrate it. Animals now and then perform self-destructive actions under circumstances which make it difficult to suppose that the performance is not pleasurable. Though the majority of vegetable poisons are disagreeable to the taste, yet this is not always the case; and hence animals have been known to perish after a greedy meal upon some noxious herb. But here, as in the case of the moth which, in Tennyson's phrase, is "shrivelled in a fruitless fire," there is a new relation in the environment for which there is no corresponding adjustment established in the organism. The cases are like that of the child who ignorantly drinks a sweet poison, or satisfies its desire for muscular activity by climbing out of the window. The dynamic theory of life does not imply the pre-existence of internal relations answering to all possible external relations. Were it so, life would be complete from the outset. For new emergencies there have to be new adjustments. Now manifestly if the whole race of moths could be made to live among lighted candles, one of two things must happen: either there must be generated a tendency to avoid the candles, or the race must be exterminated. If an animal migrates to a district where poisonous herbs abound, its existence can be maintained only on one of two conditions: if it be low in intelligence, a disagreeable taste must be generated, so that the noxious food will be instantly rejected, or the odor must become offensive, so that the taste will be forewarned; but if the animal be possessed of high intelligence, like a bird or mammal, it will be enough if the dangerous object is identified by smell or taste, or even by vision or touch, while along with the recognition there occurs an ideal representation of danger. Hence it is not necessary to the maintenance of a race like mankind that all poisons should be bitter, or that injurious actions, newly tried, should painfully affect any of the senses. The work of making the needful adjustments is thrown largely upon the cerebrum, with its power of forming ideal sequences like those formerly experienced, and of directing action so as to anticipate them. Here, indeed, we come suddenly upon one of the conditions of human progressiveness, as above illustrated.

We can now begin to see why man finds pleasure in so many kinds of activity which are noxious to himself. In no other animal are the failures of adjustment between pleasurable and painful states, and beneficial and hurtful actions, so numerous or so conspicuous as in man. Though in the adjustments upon which the maintenance of life immediately depends, the correspondence is of necessity unimpaired, yet in those less essential adjustments concerned in keeping up the greatest possible fulness of life, there is frequent and lamentable imperfection. Thus, — to take one instance out of a hundred, — we continually see pleasurable states of consciousness associated with hurtful actions in the cases of men who ruin themselves by the abuse of narcotics. The fact that men, who are so much wiser than brutes, should often persist in conduct unworthy of brute intelligence, has long formed the theme of much sage but fruitless moralizing. By Calvinistic theologians such phenomena were formerly cited in proof of the theory that man is morally the lowest of creatures, having been rendered thoroughly unsound by the eating of the apple in Eden. It is needless to say that science offers a very different explanation. It follows from our inquiry into the causes of organic evolution,* that the adjustments which tend to maintain the highest fulness of life can be kept up only by natural selection or by direct equilibration. Now we have already had occasion to notice that in the human race, partly on account of the extreme complexity of its individual organization, partly on account of superadded social conditions, the action of natural selection is to a great extent checked. I do not allude to the fact that the supremely important human sympathies, which have grown up in the course of social evolution, compel us to protect the idle and intemperate, so that, instead of starving, they are "enabled to multiply at the expense of the capable and industrious." For far deeper than this lies the circumstance that "there are so many kinds of superiorities which severally enable men to survive, notwithstanding accompanying inferiorities, that natural selection cannot by itself rectify any particular unfitness; especially if, as usually happens, there are coexisting unfitnesses which all vary independently." † In a race of inferior animals a function in excess is quickly reduced by natural selection, because, owing to the universal slaughter, the highest completeness of life possible to a given grade of organization is required for the mere maintenance of life. But under the conditions surrounding human development, a function in excess may remain in excess, provided its undue exercise is not such as is incompatible with life. Through countless ages, for example, the feelings which insure the maintenance of the race have been strengthened by natural selection, because of their prime importance to every race. But under the conditions of civilized life, the sexual passion has become a function in excess, which natural selection is powerless to reduce, because, although it is probably the source of more crime and misery than any other excessive function, and therefore detracts more from complete individuation or the fulness of human life than any other, it is nevertheless but seldom incompatible with the maintenance of life. In all such cases, mankind has so many other functions, besides the excessive ones, which enable it to subsist and achieve progress in spite of them, that their reduction to the normal standard is left for the slow process of direct equilibration.

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* In an unpublished chapter.

† Spencer, Psychology, I. 284.

The action of direct equilibration, in turn, is greatly complicated, among the progressive races, by the rapid and extensive change of the social environment from age to age. A new set of readjustments need to be made almost before the old ones are completed; and the result is that there are always a number of functions somewhat out of balance. When civilization is rapidly progressing, each generation of men is forced into kinds of activity to which the inherited emotional tendencies, and in some cases even the inherited physical constitutions, are not thoroughly adapted. Hence the number and variety of pathological phenomena, both mental and physical, is greater in civilized than in savage communities. As might be expected, the present century, which has witnessed a far more extensive revolution in the modes of human activity than any previous age, exhibits numerous instances of these minor failures of adjustment. To take the most conspicuous example, — the progress of science and industry during the past three generations has raised the average standard of comfortable living so greatly and so suddenly, that to attain this standard an excessive strain is put upon men's powers. In many respects, it is harder to live to-day than it was a hundred years ago. As a general rule we are overworked until late in life in the mere effort to secure the means of maintaining life. Not only does this continual overwork entail a ser ous disturbance of the normal equilibrium between pleasure and pains and the correlative benefits and injuries, since involves the undue exertion of certain faculties and the undu repression of others, but there is further disturbance due t the specific character of the overwork. Throughout a ver large and constantly increasing portion of the community, th excessive labor is intellectual labor; the abnormal strai comes upon the nervous system. The task of maintainin the correspondence with environing relations, which in th course of organic evolution has been intrusted more and mor largely to the nervous system, and which in the course of soci evolution has been thrown more and more upon the cerebru has during the past hundred years been thrown upon the cer brum to a formidable extent. The community, therefore, i suffering not simply from overwork, but from excessive brai work, in the shape of inordinate thinking and planning, an inordinate anxiety. “ Further, it is to be observed that man of the industrial activities which the struggle for existence ha thrust on the members of modern societies, are in-door activ ties, — activities not only unresponded to by the feelings inherited by aboriginal men, but in direct conflict with thos more remotely inherited and deeply organized feelings whic prompt a varied life in the open air.” Hence manifold disturbance. “ A sedentary occupation pursued for years in confined air, regardless of protesting sensations, brings abou a degenerate physical state in which the inherited feelings are greatly out of harmony with the superinduced requirements of the body. Desired foods, originally appropriate, become indigestible. An air pleasure-giving by its freshness to those in vigor, brings colds and rheumatisms. Amounts of exertion and excitement naturally healthful and gratifying are found injurious. All which evils, due though they are to continued disregard of the guidance of inherited feelings, come eventually to be mistaken for proofs that the guidance of inherited feelings is worthless.” *

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* Spencer, Psychology, I. 282, 283. Light is thus thrown upon the misuse of alcohol and tobacco, — one of the most conspicuous of the cases in which man's physical appetites prompt to actions that are injurious. I have shown in another

Further to pursue this interesting subject would be to convert a set of illustrations, already too elaborately stated, into

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work, that in healthy persons the prudent use of these narcotics — so interesting n many ways to the student of psychology — is attended by an increase in vital power. As economizing nervous energy they enhance the general fulness of life, nd the pleasure which accompanies the use of them is accordingly at the outset normal pleasure. But in many cases the incautious use of these substances, nd especially of alcohol (which acts directly upon the cerebrum), generates a narotic craving which is abnormal, as prompting to injurious actions. I do not cite this craving as peculiar to our present stage of civilization, for, like most other forms of mental disease, it has been known for many ages; and recent researches make it somewhat doubtful whether excessive narcosis will develop it in the lifetime of a single individual, unless there is hereditary predisposition. Many persons can use alcohol, and can frequently abuse it, through a long life, without ever cquiring the resistless craving known as methomania or dipsomania. It was formerly supposed that drunkenness tends to produce consumption and certain kinds of insanity, but it is now become probable that the case is just the reverse, the drunkenness being an early symptom of the other disease. Dr. Maudsley has colected evidence which would seem to indicate that the same hereditary taint may result indifferently in dipsomania, insanity, epilepsy, neuralgia, or consumption, — to which list dyspepsia should be added. Now consumption and dyspepsia are at bottom nervous diseases, the conspicuous pulmonary and gastric symptoms being only secondary. The former, indeed, often ends in death from exhaustion, while the lungs are still perfectly sound. Consumption is primarily an excessive lowering of nutrition, an abnormal increase of the ratio of waste to repair, attendant upon defective nerve-stimulus; and it agrees with the other diseases just enumerated, in being rarely, if ever, fully developed in the course of a single generation. In organisms vitiated by the hereditary taint, the requisite lowering of nutrition may be brought about by the inflammation of a cold or fever, or it may equally well be caused by sorrow, anxiety, or overwork. Now all this is true likewise of insanity, neuralgia, and dipsomania. Whether the observed phenomenon is the softening of the brain, the molecular degeneration of a nerve-fibre, the deposit of tubercle, or the ill-understood cerebral change which attends the craving for drink, the underlying fact is the increased ratio of waste to repair; and whatever cause diminishes repair to an extraordinary degree may also produce any of these kindred forms of disease, wherever there is hereditary predisposition. A sudden and violent physical shock may do this. Cases are on record in which persons have immediately become hopeless drunkards after falling from a carriage or receiving a violent blow on the head; and in the cases of this sort which I have in mind, there had been no previous signs of craving for drink, but there was hereditary taint derived from the father or grandfather. But anxiety and excessive brain-work, operating slowly but surely, bring out dipsomania and other forms of insanity much more frequently than they are brought out by physical shocks. We may now, I think, begin to discern the significance of the fact that, while in some other centuries, as the fourteenth, the prevailing diseases were typhoid in character, being chiefly generated by barbaric habits of uncleanness, on the other hand in the nineteenth century the prevailing diseases are those which result from excessive waste or inadequate repair of nerve-tissue. We may also begin to understand the fact that, while further growth of the æsthetic feelings has greatly dimin an unmanageable digression. Summing up the results now obtained, we see that natural selection, acting less rigidly under the limitations imposed by social evolution, fails to reduce functions that are in excess, and leaves them to be reduced by direct equilibration. The process is accordingly slow, since direct adaptation to a rapidly changing environment is attended by the appearance of minor unfitnesses, which further complicate the emotional disturbance, and disarrange the normal relations between incentives and actions. We need not, therefore, be surprised at the fact that men often find pleasure in detrimental activities; nor need we indorse the Puritanic or ascetic theory, suggested partly by the contemplation of this fact, "that painful actions are beneficial and pleasurable actions detrimental." For if this were to any considerable extent the case, sentient life would inevitably disappear from the face of the earth. The cases which we have cited belong to ethical pathology. And just as pathologic phenomena do not invalidate the laws of physiology, just as the dynamic theory of life is not invalidated by the fact that maladjustments are continually met with, so neither do cases of moral disease invalidate the corollary which inevitably follows from the Doctrine of Evolution, "that pleasures are the incentives to life-supporting acts and pains the deterrents from life-destroying acts."

We are now prepared to deal with the phenomena of right and wrong, and to notice how they become distinguished from the phenomena of pleasure and pain. Though the foregoing discussion forms the basis for a general doctrine of morality, it is nevertheless an inadequate basis, until properly supple-

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ished the gluttony and convivial drunkenness characteristic of preceding centuries, nevertheless, so far as can be ascertained, dyspepsia and dipsomania have not decreased during the present century. We can see that these diseases, along with phthisis, insanity, and general paralysis (which is the sudden breakdown of the nervous system after long-continued structural degradation) are emphatically diseases incident upon a rapid change in the social environment which the energies of the organism are strained to the utmost in meeting. And we can also see that among the minor failures of adjustment which accompany such a rapid change, there must occur cases of abnormal appetites which, owing to the great complication of their causes and the ability of society to exist in spite of them, are but slowly and partially checked by natural selection.

nented. The existence of a moral sense has purposely been s far as possible unrecognized; for I believe that in dealing ith these complex subjects, little can be accomplished, save on he plan of separately cornering the various elements in the roblem, and flooring them one by one. Any philosophy of thics, therefore, which might be founded upon the preceding nalysis, could be nothing more than a theory of Hedonism, ecognizing no other incentive to proper action than the pleasng of one's self. By one of the innumerable tricks which the isuse of current words plays with the understanding, the o-called utilitarian theory has been, and still is, not unfreuently identified with this kind of hedonistic philosophy, hich is in truth its very antipodes. The error is much like hat involved in the accusation of fatalism, commonly hurled t those who maintain the obvious and harmless assertion that oral actions conform to law. But the difference, comprising he entire difference between the noblest self-sacrifice and the eanest self-fondling, is as follows: In our theory of pleasure nd pain, which if taken as ultimate would be hedonism, the ell-being of the community has been as far as possible omited from the account. Wherever I have introduced references o social phenomena, I have considered them only in their ffects upon the fulness of life of the individual. In dealing with the incentives to action in a race of brute animals, the oregoing considerations would be sufficient. But in the so-alled utilitarian theory as it is now to be expounded, the well-being of the community, even when incompatible with that of the individual, is the all-important consideration. While the actions deemed pleasurable are those which conduce to the fulness of life of the individual, the actions deemed right are those which conduce to the fulness of life of the community. And while the actions deemed painful are those which detract from the fulness of life of the individual, the actions deemed wrong are those which detract from the fulness of life of the community. According to utilitarianism, therefore, as here expounded, the conduct approved as moral is the disinterested service of the community, and the conduct stigmatized as immoral is the selfish preference of individual interests to those of the community. And bearing in mind that the community, which primevally comprised only the little tribe, has by long-continued social integration come to comprise the entire human race, we have the ultimate theorem of the utilitarian philosophy, as properly understood, that actions morally right are those which are beneficial to humanity, while actions morally wrong are those which are detrimental to humanity.

Are we to maintain, then, that when we approve of certain actions, we do so because we consciously and deliberately reason out, in each particular case, the conclusion that these actions are beneficial to mankind? By no means. Not only is it that the highest science cannot always enable us to say surely of a given action that it is useful to mankind, but it is also that we do not stop to apply science to the matter at all. We approve of certain actions and disapprove of certain actions quite instinctively. We shrink from stealing or lying as we shrink from burning our fingers; and we no more stop to frame the theorem that stealing and lying, if universally practised, must entail social dissolution and a reversion to primeval barbarism, than we stop to frame the theorem that frequent burning of the fingers must entail an incapacity for efficient manual operations. In short, there is in our psychical structure a moral sense which is as quickly and directly hurt by wrong-doing or the idea of wrong-doing as our tactile sense is hurt by stinging.

Shall we, then, maintain, as a corollary from the Doctrine of Evolution, that our moral sense is due to the organic registration, through countless ages, of deliberate inferences that some actions benefit humanity, while others injure it? Shall we say that the primeval savage began by reasoning his way to the conclusion that if treachery were to be generally allowed, within the limits of the tribe, then the tribe must succumb in the struggle for existence to other tribes in which treachery was forbidden; and that, by a gradual organization of such inductions from experience, our moral sense has slowly arisen? This position is no more tenable than the other. Mr. Richard Hutton and Mr. St. George Mivart have attributed to Mr. Spencer some such doctrine. But Mr. Spencer is too profound a thinker to ignore so completely the conditions under which permanent emotional states are generated. Our moral sense has arisen in no such way. But to understand the way in which it has arisen, we must recur to our fundamental problem, and seek for the conditions which first enabled social evolution, as distinguished from organic evolution, to start upon its career.

It is now time to propose an answer to the question, already twice suggested and partly answered, How did social evolution originate? Starting from the researches of Sir Henry Maine, which are supported by those of Messrs. Tylor, M'Lennan, and Lubbock, we have come to the conclusion that it originated when families, temporarily organized among all the higher mammals, became in the case of the highest mammal permanently organized. Starting from the deductions of Mr. Wallace, we have seen reason for believing that civilization originated when in the highest mammal variations in intelligence became so much more important than variations in physical structure that they began to be seized upon by natural selection to the exclusion of the latter. In the permanent family we have the germ of society. In the response to outer relations by psychical changes which almost completely subordinate physical changes, we have the germ of civilization. Let us now see what can be done by combining these two theorems, so that the permanent organization of families and the complex intelligence of the highest mammal will appear in their causal relations to each other.

Many mammals are gregarious, and gregariousness implies incipient power of combination and of mutual protection. But gregariousness differs from sociality by the absence of definite family relationships, except during the brief and intermittent periods in which there are helpless offspring to be protected. Now it might be maintained that the complex intelligence of the highest mammal led him vaguely to recognize the advantage of associating in more and more permanent groups for the sake of mutual protection. From this point of view Mr. Darwin argues that men were originally a race of weak and mild creatures, like chimpanzees, and not a race of strong and ferocious creatures like gorillas, and were accordingly forced to combine because unable to defend themselves singly. It is undeniable that man is, relatively to his size, a weak animal; and there is much value in Mr. Darwin's suggestion. Nevertheless, it can hardly be said to explain sociality as distinguished from gregariousness. It may also be argued that the superior sagacity even of the lowest savage makes him quite a formidable antagonist to animals much more powerful than himself. Besides, the study of savage life brings out results at variance with the notion of man's primitive gentleness. A strong case might be made in support of the statement that uncivilized man is an extremely ferocious animal, and that among savage races, which certainly differ very notably in natural ferocity of disposition, the most ferocious tribes are often the most likely to become dominant and assist social integration by subduing other tribes. The earliest annals of the highest of human races, the Aryan, certainly bear witness to extreme ferocity, checked and determined in its direction by a moral sense further developed than that of savages. While recognizing, therefore, the value of Mr. Darwin's suggestion, so far as it goes, I believe that the true explanation lies much further beneath the surface.

It will be remembered that, when treating of the parallel evolution of the mind and the nervous system,* it was shown that the increase of intelligence in complexity and speciality involves a lengthening of the period during which the nervous connections involved in ordinary adjustments are becoming organized. Even if the physical interpretation there given should turn out to be inadequate, the fact remains undeniable, that while the nervous connections accompanying a simple intelligence are already organized at birth, the nervous connections accompanying a complex intelligence are chiefly organized after birth. Thus there arise the phenomena of infancy, which are non-existent among those animals whose psychical actions are purely reflex and instinctive. Infancy, psychologically considered, is the period during which the nerve-connections and correlative ideal associations necessary for self-maintenance are becoming permanently established. Now this period, which only begins to exist when the intelligence is considerably complex, becomes longer and longer as the intelligence increases in complexity.

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* The reference is to the unpublished chapter on the Evolution of Mind.

uman race it is much longer than in any other race of
ls, and it is much longer in the civilized man than in the
* Indeed among the educated classes of civilized
its average duration may be said to be rather more
quarter of a century, since during all this time those
to live by brain-work are simply acquiring the capacity
, and are usually supported upon the products of pa-
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d not be said that, on the general theory of evolution,
sage from the short infancy of other primates to the
ly long infancy witnessed among the lowest contem-
savages, cannot have been a sudden one.† But a
reason may be assigned why Nature, which never makes
mps, must have been incapable of making this par-
ump. Throughout the animal kingdom the period of
is correlated with feelings of parental affection, some-
onfined to the mother, but often shared by the father,
case of animals which mate. Where, as among the
nimals, there is no infancy, there is no parental affec-
Where the infancy is very short, the parental feeling,
intense while it lasts, presently disappears, and the off-
cease to be distinguished from strangers of the same
And in general the duration of the feelings which
the protection of the offspring is determined by the
of the infancy. The agency of natural selection in
ning this balance is too obvious to need illustration.
if long infancies could have suddenly come into exist-
nong a primitive race of ape-like men, the race would
ickly perished from inadequate persistence of the pa-
ffections. The prolongation must therefore have been
, and the same increase of intelligence to which it was

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bly there may be a kindred implication in the fact that women attain
arlier than men.

connection it is interesting to observe that the phenomena of infancy
e decidedly more marked in the anthropoid apes than in other non-
imates. At the age of one month the orang-outang begins to learn to
ing on to convenient objects of support, like a human infant. Up to this
on its back, tossing about and examining its hands and feet. A monkey
e age has reached maturity, so far as locomotion and prehension are con-
See Mr. Wallace's interesting experience with an infant orang-outang, in
Archipelago, Vol. I. pp. 68 – 71.

due must also have prolonged the correlative parental feelings, by associating them more and more with anticipations and memories. The concluding phases of this long change may be witnessed in the course of civilization. Our parental affections now endure through life; and while their fundamental instinct is perhaps no stronger than in savages, they are, nevertheless, far more effectively powerful, owing to our far greater power of remembering the past and anticipating the future.

I believe we have now reached a very thorough and satisfactory explanation of the change from gregariousness to sociality. Bear in mind that I am not indulging in pure hypothesis. The prolongation of infancy accompanying the development of intelligence, and the correlative extension of parental feelings, are facts established by observation wherever observation is possible. And to maintain that the correlation of these phenomena was kept up during an epoch which is hidden from observation, and can only be known by inference, is to make a genuine induction, involving no other assumption than that the operations of nature are uniform. To him who still believes that the human race was created by miracle in a single day, with all its attributes, physical and psychical, compounded and proportional just as they now are, the present inquiry is, of course, devoid of significance. But for the evolutionist there would seem to be no alternative but to accept, when once propounded, the present series of inferences.

For the process here described, when long enough continued, must inevitably differentiate and integrate a herd or troop of gregarious ape-like men into a number of small family communities such as are now found among the lowest savages. The prolonged helplessness of the offspring must keep the parents together for longer and longer periods in successive epochs; and when at last the association is so long kept up that the older children are growing mature while the younger ones still need protection, the family relations begin to become permanent. The parents have lived so long in company, that to seek new companionships involves some disturbance of engrained habits; and meanwhile the older sons are more likely to continue their original association with each other than to establish associations with strangers, since they have common objects to achieve, and common enmities, bequeathed and acquired, with neighboring families. As the parent dies, the headship of the family thus established devolves upon the oldest, or bravest, or most sagacious male remaining. Thus the little group gradually becomes a clan, the members of which are united by ties considerably stronger than those which ally them to members of adjacent clans, with whom they may indeed combine to resist the aggressions of yet further outlying clans, or of formidable beasts, but towards whom their feelings are usually those of hostile rivalry. It remains to add, that the family groups thus constituted differ widely in many respects from modern families, and do not afford the materials for an idyllic picture of primeval life. Though always ready to combine against the attack of a neighboring clan, the members of the group are by no means indisposed to fight among themselves. The sociality is but nascent: infants are drowned, wives are beaten to death, and there are deadly quarrels between brothers. So in modern families evanescent barbarism shows itself in internal quarrels, while nevertheless injury offered from without is resented in common. A more conspicuous difference is the absence of monogamy in the primitive clan. It has been, I think, demonstrated, — and for the evidence in detail I would refer to Sir John Lubbock's excellent treatise on the Origin of Civilization, and to the learned works of M'Lennan and Tylor, — that in the primitive clan all the women are the wives of all the men. Traces of this state of things, which some of our half-educated "reformers" would fain restore, are found all over the world, both in modern savage communities and in traditional observances preserved by communities anciently civilized. There was also, as Sir Henry Maine has proved, entire community of lands and goods, and the individual possessed no personal rights as against the interests of the clan. And let us note, in conclusion, that this state of things, while chiefly brought about by the process of direct equilibration above described, is just that which natural selection must assist and maintain so long as the incipient community is small and encompassed by dangers.

Thus we cross the chasm which divides animality from humanity, gregariousness from sociality, hedonism from morality, the sense of pleasure and pain from the sense of right and wrong. For note that by the time integration has resulted in the establishment of a permanent family group with definite relationships between the members, the incentives to action in each member of the group have become quite different from what they were in a state of mere gregariousness. Sympathy, or the power of ideally reproducing in one's self the pleasures and pains of another person, is manifested in a rudimentary form by all gregarious animals of moderate intelligence. Not unfrequently, as Mr. Darwin shows, a baboon has been known to risk his life to save that of a comrade; and the higher apes habitually take under their care young orphans of their own species. It is evident that this power of sympathy must be strengthened and further developed when a number of individuals are brought into closer and more enduring relationships, even though these come far short of what, from our modern ethical standard, would be termed loving. Affection in the savage clan is but partially preventive of fiendish cruelty; yet there is an ability in the members to understand each other's feelings, and there is a desire for the approbation of fellow-clansmen. Kinship in blood, as well as community of pursuits and interests, promotes these feelings. Even to-day we can usually understand the mental habits, desires, and repugnances of our own immediate kindred better than we can understand those of other people unrelated to us, even though circumstances may now and then have led us to prefer the society of the latter. We can more readily admire their excellences and condone their faults, for their faults and excellences are likely to be in a measure our own.

Given this rudimentary capacity of sympathy, we can see how family integration must alter and complicate the emotional incentives to action. While the individual may still exercise his brute-like predatory instincts upon strangers and lower animals, and will, indeed, be more highly approved the more he does so, on the other hand there is a curb upon his exercise of them within the limits of the clan. There is a nascent public opinion which lauds actions beneficial to the clan, and frowns upon actions detrimental to it; though for this it is not necessary that there should be a generalization of the effects of certain actions, any more than a generalization of the effects of hunger is needed to insure the individual's approval of eating. The mere present sense of collective pleasure or pain is enough to organize the complex feeling. For example, when a marauding expedition upon a neighboring clan is defeated by the cowardice or treachery of one of the party, the offender is perhaps beaten, kicked, or killed. The present sense of collective pain immediately prompts the actions which tend to repress the cowardice or treachery. On the other hand, the pleasurable states which result in all the members of the clan, in common, after an exhibition of successful bravery, immediately generate approval of the man who is brave, along with the desire to imitate him. In short, — to quote Mr. Spencer, — one of the things that come to be strongly associated in the mind of the young savage, with marks of approval, "which are symbolical of pleasures in general, is courage; and one of the things that come to be associated in his mind with frowns and other marks of enmity, which form his symbol of unhappiness, is cowardice. These feelings are not formed in him because he has reasoned his way to the truth that courage is useful to the tribe, and by implication to himself, or to the truth that cowardice is a cause of evil. In adult life he may, perhaps, see this; but he certainly does not see it at the time when bravery is thus associated in his consciousness with all that is good, and cowardice with all that is bad. Similarly there are produced in him feelings of inclination or repugnance towards other lines of conduct that have become established or interdicted, because they are beneficial or injurious to the tribe; though neither the young nor the adults know why they have become established or interdicted. Instance the praiseworthiness of wife-stealing and the viciousness of marrying within the tribe." * In these ways the establishment of permanent family relationships generates new incentives to action, unknown in the previous epoch of mere gregariousness, which must often, and in some instances habitually, overrule the merely animal incentives comprised in personal pleasures and

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* Spencer, Recent Discussions, p. 23.

pains. The good of the individual must begin to yield to the good of the community.

Next in order comes the genesis of the feelings of regret and remorse, which are the fundamental ingredients of conscience. This part of the subject has been ably treated by Mr. Darwin, whose chapter on the Moral Sense is one of the most profound and suggestive chapters in his recent work on the "Descent of Man." Mr. Darwin points to the important fact, that, while the incentives to actions beneficial to the community are always steadily in operation, on the other hand the purely selfish impulses, although frequently strong enough to acquire temporary mastery over the others, are nevertheless accompanied by pleasures that are brief in duration and leave behind memories of comparatively slight vividness. Now, when intelligence has progressed to a point where there is some definite memory of particular past actions, the workings of the mind, with reference to conduct, begin to assume a more strictly moral character. Though at the moment of action a man may yield to the desire of gratifying hunger, or revenge, or cupidity, at the cost of violating the rules enforced by social sanctions, yet afterwards, when "past and weaker impressions are contrasted with the ever-enduring social instincts, retribution will surely come. Man will then feel dissatisfied with himself, and will resolve, with more or less force, to act differently for the future. This is conscience; for conscience looks backward and judges past actions, inducing that kind of dissatisfaction which, if weak, we call regret, and, if severe, remorse." *

All these varieties of incentive are next reinforced by incentives of a mysterious and supernatural character. When intelligence has progressed to the point where some curiosity is felt concerning the causes of phenomena, — a point barely reached by the lowest contemporary savages, — mythologies begin to be framed. A mythology is a rudimentary cosmic philosophy; and let me note, in passing, that an uncivilized race must have attained considerable latent philosophic capacity before it can construct a rich mythology, — instance the luxuriant folk-lore of Greece as contrasted with the scanty mythology of savages. Now, the earliest kind of philosophy is fetichism, by which

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* Descent of Man, I. 87.

natural phenomena are attributed to the volitions of countless supernatural agencies. What are these agencies? Recent researches have elicited the fact that they are supposed to be the ghosts of the dead ancestors of the tribe. The dead chief, who appears to the savage in dreams, is supposed to rule the winds and floods, and to visit with his wrath those who violate the rules of action established in the tribe. When one of Mr. Darwin's companions, in Terra del Fuego, shot some birds to preserve as specimens, a Fuegian present exclaimed, "O Mr. Bynoe, rain much, much wind, blow much!" thus indicating his belief that the wasting of food, condemned by tribal rules, would be visited with condign punishment by the tutelar deities of the tribe. "This transfigured form of restraint," says Mr. Spencer, "differing at first but little from the original form, is capable of immense development." As the fetichistic agencies are generalized into the deities of polytheism, and these in time are summed up in a single anthropomorphic deity, there slowly grows up the theory of a hell in which actions condemned by the community will be punished. The complex conceptions of good and evil are thus so widely differentiated from the simpler conceptions of pleasure and pain, that the traces of the original kinship are obscured. This kind of restraint has not ceased to operate upon numbers of civilized men at the present day; and theologians tell us that, if it were removed, there would ensue a moral retrogression. So doubtless there would, if it could be removed prematurely.

Returning to our savage, it may be observed that these combined agencies have enforced upon him an amount of self-restraint, in view of tribal sanctions, which differentiates him widely from any gregarious animal. Savages are not unfrequently capable of extreme devotion and self-sacrifice when the interests of the tribe are at stake: instances are not rare in which they will deliberately choose to be shot rather than betray the plans of their fellow-tribesmen. It is to such cases as these that we must attribute the discrepancies in the accounts of savage morality given by different travellers. If we do not stop to analyze the matter, such instances may seem to prove that the savage is morally on a level with us. But the analysis of countless seemingly inconsistent observations shows that savage virtues are, in general, confined to the clan. The same savage who will suffer torture with equanimity, rather than betray his comrades, is also capable of the most fiendish cruelty and treachery toward the members of another clan. For the very forces which, during long ages, have brought him to the point at which he can sacrifice his own pleasure to the good of the tribe, have also been impressing upon him the meritoriousness of letting loose all his brutal instincts beyond the tribal limits. The savage has no sense of the wickedness of killing, stealing, and lying, in the abstract, or of the horrible cruelty of tying his enemy to a tree and slowly burning him to death with firebrands. To the Indians described by Mr. Parkman, such villany formed the most delightful of recreations.

Thus, though the savage has the germ of a moral sense, which prompts him, irrespective of utilitarian considerations, to postpone his personal welfare to that of his clan, he can by no means be accredited with a fully developed moral sense. And the incentives which influence him are not what we call moral sentiments, in the strict sense of the phrase. "They are simply sentiments that precede and make possible those highest sentiments which do not refer either to personal benefits or evils to be expected from men, or to more remote rewards and punishments." The lower incentives have indeed continued to exert a powerful, perhaps a predominating, influence down to the present time. So long as readers are found for ethical treatises, like that of Jonathan Dymond, in which the sole ground of moral obligation is held to be the supernaturally revealed fiat of an anthropomorphic Deity; "while sermons set forth the torments of the damned and the joys of the blessed as the chief deterrents and incentives; and while we have prepared for us printed instructions 'how to make the best of both worlds,'— it cannot be denied that the feelings which impel and restrain men are still largely composed of elements like those operative on the savage, — the dread, partly vague, partly specific, associated with the idea of reprobation, human and divine, and the sense of satisfaction, partly vague, partly specific, associated with the idea of approbation, human and divine."*

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* Spencer, Psychology, II. 602.

But a sound ethical philosophy regards it as degrading to perform good actions or to refrain from performing bad actions merely in order to win applause or to secure a place in heaven. Something more is needed to complete our account of the moral sense.

Nevertheless, the more perilous portions of the labyrinth have been traversed, I hope, with safety, and we now need only one more clew to bring us to the light. We shall best realize the character of this additional element needed, if we consider for a moment the most general aspects of the two groups of feelings already described. While the feelings of which we first treated under the head of pleasures and pains are purely egoistic or self-regarding feelings, on the other hand the feelings which we have lately described as underlying and forming the groundwork of the moral sense in a state of sociality have been happily characterized by Mr. Spencer as "ego-altruistic" feelings. That is, they concern the happiness of the individual in so far as it depends upon the feelings with which his fellow-creatures regard him. The mixed feeling ordinarily known as generosity, for example, is often to a very large extent ego-altruistic. "The state of consciousness which accompanies performance of an act beneficial to another is usually mixed; and often the pleasure given is represented less vividly than are the recipient's feeling toward the giver and the approval of spectators. The sentiment of generosity proper is, however, unmixed in those cases where the benefaction is anonymous: provided, also, that there is no contemplation of a reward to be reaped hereafter. These conditions being fulfilled, the benefaction clearly implies a vivid representation of the pleasurable feelings (usually themselves representative) which the recipient will have."*

The vivid representation of the pleasurable or painful feelings experienced by others is sympathy; and the additional factor to be taken into the account, in order to complete the explanation of the moral sense, is the enormous expansion of sympathy which has been due to the continued integration of communities, and to the accompanying decrease of warlike or predatory activity. A word of passing comment only is needed for the cynical theory that sympathy is but an ethereally refined selfishness, and that when we relieve a fellow-creature in distress we do it only because it pains us to see him suffer. This is true; but when the pain occasioned by the sight of another's suffering, or by the idea of suffering and wrong when generalized and detached from the incidents of particular cases, becomes so strong as to determine our actions, then the chasm is entirely crossed which divides us psychically from the brutes. Between the Fiji, who keenly relishes the shrieks of his human victim, and Uncle Toby, who could not kill a fly and pitied even the Devil, the difference has come to be generic.. And when this kind of self-pleasing is carried so far as to lead a man to risk his life in the effort to rescue a stranger, or perhaps even an enemy, from fire, or drowning, it is so widely removed from what we mean when we speak of selfishness as to be antithetical to it. We do not describe the workings of Shakespeare's genius as reflex actions, though all intelligence was originally reflex action. Neither are we justified in describing as selfish the actions which are dictated by sympathy, though all sympathy is in its origin a kind of self-pleasing.

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* Spencer, Psychology, II. 613.

As already shown in describing the chief characteristics of the evolution of society,* the primary cause which has developed sympathy at the expense of the egoistic instincts has been the continued integration of communities, originally mere tribes or clans, into social aggregates of higher and higher orders of complexity. For by this long-continued process the opportunities for the exercise of the altruistic feelings have been necessarily increased in number and frequency of occurrence, while the occasions requiring the exercise of the anti-social feelings have become less frequent, so that the former set of feelings have become strengthened by use, while the latter have become relatively weakened by disuse. Along with this direct and obvious effect of social integration, another effect has been wrought, indirect and less obvious. A high development of sympathy cannot be secured without a high development of representativeness, so closely interrelated are our intellectual and moral natures. A very feeble faculty of imagining objects and relations not present to sense must necessitate an absence of active sympathetic emotion, save in its crudest form. It is a familiar fact that many men are cruel, in word or deed, because they are incapable of adequately representing to themselves the pain, physical or mental, of which they are the cause. The validity of such an interpretation is confirmed by the fact that even, where there is very high representative capacity, the lack of the requisite elements of personal experience will prevent the rise of sympathetic feeling. Thus it is notoriously difficult for strong and healthy people to enter into the feelings of those who are weak and nervous. These facts show that the development of sympathy is largely determined by the development of the representative faculty and by increasing width and variety of experience. With the simplest form of sympathy, such as the painful thrill felt on seeing some one in a dangerous position, contrast such a complex sentiment as the sense of injustice, and it becomes evident that the latter feeling differs from the former mainly in degree and quantity of representativeness. In the former case there is a representation of the injury or death impending over some person immediately in sight; and it is the shrinking from this detriment to the fulness of life of another person which constitutes the sympathetic feeling. In the latter case — supposing, for example, the kind of injustice in question to be that against which English-speaking people have made provision in *habeas corpus* acts — there is the sympathetic excitement of that highly representative egoistic sentiment known as the love of personal freedom. At first a mere recalcitration against whatever impedes the free action of the limbs, this egoistic feeling has, through increased power of representation, developed into a dislike and dread of whatever possible combination of circumstances may in any way, however remotely, interfere with the fullest legitimate exercise of all the functions of physical and psychical life. To have this complex feeling sympathetically excited for persons whom one has never seen, and who are perhaps yet unborn, — and still more, to be so far possessed by this highly generalized and impersonal sympathy as to risk one's own liberty and life in efforts to avert the possible evils which are the objects of its dread,—implies a power of representing absent relations such as has yet been acquired by only two or three of the most highly gifted families of mankind. And manifestly the sentiments which respond to the notions of justice and injustice in the abstract, are still more remotely representative, still more highly generalized, and still more thoroughly disengaged from the consideration of concrete instances of pleasure and pain.

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* See, for the present, the paper on "The Laws of History," above referred to, where the case is crudely stated.

To this expansion of the power of sympathetically representing feelings detached from the incidents of particular cases until the sphere of its exercise has become even wider than the human race, and includes all sentient existence, is due our instinctive abhorrence of actions which the organically registered experience of mankind has associated with pain and evil, and our instinctive approval of actions, similarly associated with pleasure and increased fulness of life. It is not that, as in intellectual progress, there has been a registration of inferences, at first conscious, but finally automatic; but it is that there has been a registration of feelings respectively awakened by pleasure-giving and pain-giving actions. And just as men's intellectual conceptions of the causes of phenomena become more and more impersonal as they are extended over wider and wider groups of phenomena, generating at last an abstract conception of Universal Cause, so free from the element of personality that to less cultivated minds it seems atheistic; so in like manner as the sympathetic feelings are extended over wider and wider areas, no longer needing the stimulus of present pains and pleasures to call them forth, they generate at last an abstract moral sense, so free from the element of personality that to grosser minds it is unintelligible. The savage cannot understand the justice which he sees among Europeans, and the mercy of the white man is ascribed by him to imbecility or fear. To him some personal end seems necessary as an incentive to action. But the philanthropist finds an adequate incentive in the contemplation of injustice in the abstract.

Thus the ethical theories, as well as the psychology, of the schools of Hume and Kant, appear to be reconciled in the deeper synthesis rendered possible by the theory of evolution.

On the one hand, it is a corollary from the laws of life that actions desired by the individual and approved by the community must in the long run be those which tend to heighten the life respectively of the individual and of the community. And on the other hand, it is equally true that there is a highly complex feeling, the product of a slow emotional evolution, which prompts us to certain lines of conduct irrespective of any conscious estimate of pleasures or utilities. In no department of inquiry is the grandeur of the Doctrine of Evolution more magnificently illustrated than in the province of ethics.

Before we conclude, there are one or two further points to which it seems necessary to allude. In asserting that we possess an instinctive and inherited moral sense, it is not meant that we possess, anterior to education and experience, an organic preference for certain particular good actions, and an organic repugnance to certain particular bad actions. We do not inherit a horror of stealing, any more than the Hindu inherits the horror of killing cattle. We simply inherit a feeling which leads us, when we are told that stealing is wrong, to shun it, without needing to be taught that it is detrimental to society. Hence there is a chance for pathological disturbances in the relations between the moral sense and the actions with which it is concerned. Imperfectly adjusted moral codes arise, and false principles of action gain temporary currency. These, nevertheless, come ultimately to outrage our sympathies, and are consequently overthrown; while the principles of action which really tend to heighten the life of society are sustained by our sympathies ever more and more forcibly, and at last become invested with a sacredness which is denied to the others. Hence arises the ethical distinction between *mala prohibita* and *mala in se.*

Finally, it is not to be denied that, when the intelligence is very high, there is likely to arise a deliberate pursuit of moral excellence, attended by a distinct knowledge of the elements in which such excellence consists. Instead of being primeval, as the cruder utilitarianism seems to have imagined, such conscious devotion to ends conducive to the happiness of society is the latest and highest product of social evolution, and becomes possible only when the moral sense is extremely developed. At this stage, ethical conceptions begin to be reflected back upon the conduct of the individual where it concerns solely or chiefly himself; and the self-regarding virtues, as Mr. Darwin calls them, which are quite unknown save in a high state of civilization, come into existence. The injury of one's self, by evil thoughts, intemperate behavior, or indulgence of appetite, comes to be regarded as not only physically injurious, but morally wrong; and there arises the opinion that it is selfish and wicked for one to neglect one's own health or culture. Here we approach the limits at which morality shades off into religion. For, as I shall hereafter show,* Religion views the individual in his relations to the Infinite Power manifested in a universe of causally connected phenomena, as Morality views him in relation to his fellow-creatures. To violate the decrees of nature comes to be considered a sin, capable of awakening keen remorse; for to him whose mental habits have been nurtured by scientific studies, the principles of action prescribed by the need for harmonizing inner with outer relations are, in the truest sense, the decrees of God.

And now, having reached the terminus of our inquiry, let us look back over the course for a moment, that we may see the character of the progress we have achieved. Such a retrospect is here especially needed, because the complexity of our subject has been so great, and the range of our illustrations so wide, that the cardinal points in our argument have perhaps run some risk of getting overlaid and concealed from view, and in particular it may not be sufficiently obvious how completely we have attained the object set before us as the goal of the present chapter, namely, to explain the genesis of the psychical forces which wrought the decisive change from animality to humanity. That we may well appreciate the solid consistency of the entire argument concerning the progress from brute to man, let us therefore contemplate in a single view its various factors.

We have seen that the progress from brute to man has been but slightly characterized by change in general bodily structure in comparison with the enormous change which has been wrought in the cerebrum, and in those highest psychical functions which stand in correlation with the condition of the cerebrum. We have seen that the development of these highest psychical functions, in all their wondrous variety and complexity, has consisted at bottom in the increase of the power of mentally representing objects and relations remote from sense. By the reiterated testimony of many diverse kinds of illustrative facts, we have been convinced that in mere quantity of representative capacity, with its infinitely various consequences, the civilized man surpasses the lowest savage by a far greater interval than that by which the lowest savage surpasses the highest ape; just as the gulf between the cerebral capacity of the Englishman and that of the non-Aryan dweller in Hindostan is six times greater than the gulf which similarly divides the non-Aryan Hindu from the gorilla. And we have indicated in sundry ways how this increase in representative capacity, itself a prerequisite to any high degree of social combination, has been furthered by each advance in social combination, so that the enormous psychical progress achieved since mankind became distinctly human has been mainly dependent upon that increasing heterogeneity of experience which increasing social integration has supplied.

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* The reference is to the unpublished chapter on Science and Religion.

But in spite of the fact that the psychical progress achieved since mankind became distinctly human is so much greater in quantity than that which was required to carry it from apehood to manhood, we were led to adopt the Duke of Argyll's suggestion, that the boundary was really crossed when this preliminary and less conspicuous psychical progress had been achieved. And working out the happy thought which science owes to Mr. Wallace, we concluded that this comparatively inconspicuous but all-essential step in psychical progress was taken when the intelligence of the progenitors of mankind had reached the point where a slight increase in representative capacity came to be of greater utility to the species than any practicable variation in bodily structure. Here our first line of inquiry ended. So far as the mere subordination of physical to psychical modification is concerned, the character of the progress from apehood to manhood now became intelligible.

But at this point we were confronted with a new question, suggested by some of the conclusions obtained on our first line of inquiry. Having perceived that the intellectual progress or increase in representative capacity, which distinguishes man from brute, is so intimately connected with man's capacity for social combination, it became needful to search for the circumstances which begot in the progenitors of mankind the capacity for a kind of social combination more definite in the character of its relationships than that quasi-social combination, not uncommon among mammals, which is known as gregariousness. In other words, seeing that such thinkers as Sir Henry Maine have shown that the primordial unit of society, by the manifold compounding of which great tribes and nations have come into existence, was the aboriginal family group, with its nascently ethical relationships between the members, how shall we explain the genesis of these family groups, which have nothing strictly answering to them, either among non-human primates or among other gregarious mammals?

The feature by which the most rudimentary human family group is distinguished from any collocation of kindred individuals among gregarious mammals is the permanent character of the relationships between its constituent members. Enduring from birth until death, these relationships acquire a traditionary value which passes on from generation to generation, and thus there arise reciprocal necessities of behavior between parents and children, husbands and wives, brethren and sisters, in which reciprocal necessities of behavior we have discerned the requisite conditions for the genesis of those ego-altruistic impulses which, when further modified by the expansion of the sympathetic feelings, give birth to moral sentiments. Accordingly the phenomenon which demands explanation is the existence of permanent relationships, giving rise to reciprocal necessities of behavior, among a group of individuals associated for the performance of sexual and parental functions.

The explanation, as I have shown, is to be found in that gradual prolongation of the period of infancy, which is one of the consequences, as yet but partially understood, of increasing intelligence. Let us observe the causal connections, so far as we can trace them out, repeating, in brief, some of the conclusions reached in the chapter on the Evolution of Mind.

In an animal whose relations with its environment are very simple, resulting in an experience which is but slightly varied, the combinations of acts requisite for supporting life take place with a regularity and monotony approaching the monotonous regularity with which the functions of the viscera are performed. Hence the tendency to perform these actions is completely established at birth in each individual, just as the tendency of the viscera to perform their several functions is pre-established, all that is required in addition being simply the direct stimulus of outward physical opportunity. And the psychical life of such an animal we call purely instinctive or automatic. In such an animal the organized experience of the race counts for everything, the experience of the individual for nothing, save as contributing its mite toward the cumulated experience of the race. But in an animal whose relations with its environment are very complex, resulting in an experience which is necessarily varied to a considerable extent from generation to generation, the combinations of acts requisite for supporting life must occur severally with far less frequency than in the case of the lower animal just considered. Hence the tendency to perform any particular group of these actions will *not* be completely established at birth in each individual, like the tendency of the viscera to perform their several functions. On the other hand, there will be a multitude of conflicting tendencies, and it will be left for the circumstances subsequent to birth to determine which groups of tendencies shall be carried out into action. The psychical life of such an animal is no longer purely automatic or instinctive. A portion of its life is spent in giving direction to its future career, and in thus further modifying the inherited tendencies with which its offspring start in life. In such an animal the organized experience of the race counts for much, but the special experience of the individual counts for something in altering the future career of the race. Such an animal is capable of psychical progress, and such an animal must begin life, not with matured faculties, but as an infant. Instead of a few actually realized capacities, it starts with a host of potential capacities, of which the play of circumstance must determine what ones shall be realizable.

Manifestly, therefore, the very state of things which made psychical variation more advantageous to the progenitors of mankind than physical variation, — this very state of things simultaneously conspired to enhance the progressiveness of primeval man and to prolong the period of his infancy, until the plastic or malleable part of his life came to extend over several years, instead of terminating in rigidity in the course of four or five months, as with the orang-outang. Upon the consequences of this state of things, in gradually bringing about that capacity for progress which distinguishes man from all lower animals, I need not further enlarge. What we have here especially to note, amid the entanglement of all these causes conspiring to educe humanity from animality, is the fact, illustrated above, that this prolongation of infancy was manifestly the circumstance which knit those permanent relationships, giving rise to reciprocal necessities of behavior, which distinguish the rudest imaginable family group of men from the highest imaginable association of gregarious non-human primates.

In this line of inquiry, which, so far as I know, has never yet been noticed by any of the able writers who have dealt with the origin of the human race, it seems to me that we have the clew to the solution of the entire problem. In this new suggestion as to the causes and the effects of the prolonged infancy of man, it seems to me that we have a suggestion as fruitful as the one which we owe to Mr. Wallace. And the most beautiful and striking feature in this treatment of the problem is the way in which all the suggestions hitherto made agree in helping us to the solution. That same increase in representativeness, which is at the bottom of intellectual progressiveness, is also at the bottom of sociality, since it necessitates that prolongation of infancy to which the genesis of sociality, as distinguished from mere gregariousness, must look for its explanation. In this phenomenon of the prolonging of the period of infancy we find the bond of connection between the problems which occupy such thinkers as Mr. Wallace and those which occupy such thinkers as Sir Henry Maine. We bridge the gulf which seems, on a superficial view, forever to divide the human from the brute world. And not least, in the grand result, is the profound meaning which is given to the phenomena of helpless babyhood. From of old we have heard the monition, "Except ye be as babes, ye cannot enter the kingdom of heaven." The latest science now shows us — though in a very different sense of the words — that, unless we had been as babes, the ethical phenomena which give all its significance to the phrase "kingdom of heaven" would have been non-existent for us. Without the circumstances of infancy we might have become formidable among animals through sheer force of sharp-wittedness. But, except for these circumstances, we should never have comprehended the meaning of such phrases as "self-sacrifice" or "devotion." The phenomena of social life would have been omitted from the history of the world, and with them the phenomena of ethics and of religion.

JOHN FISKE.

ART. II. — THE MEANING AND CAUSES OF VALUE.

ALTHOUGH the term "value" plays a most conspicuous part in political economy, yet many economic writers have neglected to define it carefully and correctly, as though the term were of little importance. In consequence of this neglect, they have greatly multiplied the errors to be found in this department of study, which were numerous enough before.

It is certain that the leading terms in political economy must be definitely settled before any progress in it can be made. Macleod has made some remarks upon this subject which are well worthy of a place here. He asks, "Why has political economy not yet attained the same rank as mechanics as an exact science? Because the same care has never yet been given to settle its definitions and axioms. Economic science is now, like mechanics in its early stages, overrun and infested with words, whose meaning has never yet been settled on certain principles, and which are scarcely ever used by any two writers in the same sense, — nay, few even of the best writers are consistent with themselves. The men who have cultivated economic science are probably of as great natural ability as those who have cultivated physical science; of course, with the exception of certain unapproachable examples. Why, then, have they not come to the same unanimity as their brethren? The simple reason is, that they have not adopted the only means that could by any possibility insure success, namely, a thorough discussion and settlement of the meanings of words, nay, they have systematically despised it." * We think, therefore, that we are justified in using considerable space to define the meaning of value, if thereby we make the meaning plain; and the more justified, because it is the essential term, the deepest root, in the science of political economy.

At the outset, let it be deeply engraven on the mind that value is not a quality inhering in any object whatever. This truth will appear very clearly from Professor Perry's illustration. "If I take up a new lead-pencil from my table, for the purpose of examining all its qualities, I shall immediately perceive those which are visible and tangible. The pencil has length, a cylindrical form, a black color, is hard to the touch, is composed of wood and plumbago in certain relations to each other, and has the quality, when sharpened at the end, of making black marks upon white paper. These qualities, and such as these, may be learned by a study of the pencil itself. But can I learn, by a study of the pencil itself, the *value* of the pencil? Is value a quality? By any examination of its mechanical, or by any analysis of its chemical, properties, can I detect how much the pencil is *worth?* No. The questioning of the senses, however minute, the test of the laboratory, however delicate, applied to the pencil alone can never determine how much it is worth." † Value, then, is not a quality of a thing. It can never be found in any object. The mistakes of economists who have not kept this truth clearly in view have been most deplorable.

Before going further towards finding out the meaning of value, let us stop to define utility. For this is another difficulty which must be removed before the way to the meaning of value can be easily travelled. Nothing, therefore, is lost by stopping to define it.

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* Theory and Practice of Banking, Vol. I., Intro., p. 29 (2d ed.).

† Elements of Polit. Economy, p. 46.

Utility is the capacity which an object has to satisfy the desire of its possessor. But the utility here meant is not "that utility which is determined by reason and measured by a philosophical standard." * If an object has capacity to satisfy the desire of its possessor, however strong or weak, however depraved or elevated the desire may be, that object has utility. In this sense of the word, which is the etymological one, ardent spirits have utility the same as wheat. An obscene book, so long as it satisfies desire, has utility, — like the Bible, which satisfies the longing of many a soul. The same thing may have no utility to one man, a low utility to another, and a very high utility to a third. That is, it has no capacity to satisfy a desire of the first, a slight capacity to satisfy the desire of the second, but a very high capacity to satisfy the desire of the other.†

But utility must be carefully distinguished from exchangeability. Utility is the capacity of an object to satisfy the desire of its owner; exchangeability is the capacity of an object to satisfy the desire of one not the owner, combined, also, with his ability to purchase it. Hence, an object may have utility, even though no one beside the owner ever hears of its existence; but an object never has exchangeability unless known to and desired by another.

Yet an article may possess both exchangeability and utility. This is often the case. Thus gold is exchangeable, for it may be desired by another; and also useful, for the owner may wear it as ornament or otherwise, or manufacture it into watches, jewelry, and the like. Having cleared up the meaning of these terms, let us proceed on our way towards defining value.

When Robinson Crusoe recovered from his shipwreck, he found that he was the sole owner and occupant of a comfortable and fertile island. There was abundance for food and clothing; he easily provided himself with a house for shelter and habitation. Yet all these possessions had no value. They had utility, for they could satisfy his wants. Indeed, they were quite as useful to him as if he and they had been in

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* Bowen, Am. Polit. Econ., p. 27.

† See Perry's Elements of Polit. Econ., p. 72.

England. Their utility was great, their value nothing; why did they not have value? There must have been some other person having exchangeable objects, who also wanted some of Crusoe's things; and further, an exchange must have actually taken place before the commodities of either person could have had any value. If people, living in the same community, and owning different commodities, never exchanged them with each other, such commodities could have no value. Commodities cannot have value unless their owners exchange them with one another for those things which they desire but have not. Consequently, Crusoe's possessions had no value because he owned everything and was alone. But if another person had lived there, having various things which Crusoe wanted, and which could have been obtained by exchanging a part of his own for them, then the values of the several commodities exchanged could have been ascertained. Hence we find that the value of a commodity is an estimate agreed to between the person parting with and the person receiving it. But in what words or terms is this estimate or value expressed? A has a hat and B a pair of shoes. Each wishes to exchange his product for that of the other. After considerable discussion, in which A declares that he ought to have more than the shoes for his hat, it is agreed that each shall exchange his product for that of the other. The value of the hat, therefore, is expressed by the shoes; thus the hat is said to be worth the pair of shoes; and, likewise, the shoes are worth the hat. The value of each product is expressed by the other. Thus our conception of value is now complete, and may be expressed in the following manner: Value is the estimate agreed to between the person parting with and the person receiving a commodity expressed in some other commodity that is exchanged for it.

We think that this definition of value will be easily apprehended. It will be seen that value does not reside in a commodity, but is an estimate or affection of the mind. It is not an estimate made by one person, however, but by two or more, —by all the parties owning the several articles that are exchanged. Nor can an estimate ever be considered the value of anything unless an exchange actually takes place.

Hence, an *ex parte* estimate, i. e. the estimate of one person, or the estimates of persons who are not the owners, can never be considered as the value of anything. True, we can tell what the value of a commodity was at the time of the last exchange, as expressed in the commodity exchanged for it; so, likewise, can we tell what it probably will exchange for at some future ime. And this is our meaning when we say that a commodity s worth a certain sum or thing. We mean that it was exchanged for some other thing, or can be exchanged for it at ome future time. So the merchant, conscious of this truth, can calculate with a reasonable degree of certainty upon the wants of his customers, and what he can probably get for his goods. And because the values, or estimates which men put upon things, undergo but little change, they can buy and sell, and engage in commerce in the most distant parts of the earth. Yet how often men fail to discern the varying and capricious values or estimates that will be put upon things, is a matter of common experience.

Macleod has done so much to clear up the meaning of value that we cannot forbear making some extracts from him. Thus, he says that "however much a person may wish to sell any product of his own, yet, if no one will buy it, it has no value. If an exchange takes place, it can only do so from the reciprocal desire of each for the product of the other. Hence it is clear that *value necessarily requires the concurrence of two minds.*" * It is a little singular, however, that he should have written the following sentence just before those last quoted. "We may observe that, since a thing which cannot be exchanged has no value, the value of anything depends not upon the person who offers it for sale, but upon the desire of the purchaser." Is not that equivalent to saying that the value of a thing depends upon the desire of the purchaser? And is not this statement directly opposed to the one previously quoted, namely, "that value necessarily requires the concurrence of two minds, ... and that if an exchange takes place, it can only do so from the reciprocal desire of each for the product of the other"? Before an exchange can take place, there must be a meeting of minds; which person has the strongest desire to exchange is often difficult to tell, for each generally tries to conceal his desires, in part, at least, in the hope of making a better exchange. Suppose the purchaser is in great want of bread, and the seller knows it, will not the latter use his information to increase the value or estimate of his bread? Or suppose a dealer has some article on hand, like perishable fruit, which he is very desirous to dispose of, will not the purchaser often use his knowledge to reduce the value of the fruit? Consequently, the statement is a mistake that "the value of anything depends, not upon the person who offers it for sale, but upon the desire of the purchaser." It depends upon the desires of both; which of them has the strongest or weakest desire cannot easily be told. Macleod, however, has discussed this subject so clearly elsewhere, that we shall do him justice by further quotation. "Value is not a quality of an object, but an *affection of the mind.* The sole source and origin of value is *human desire.* When there is a demand for things, they have value; when the demand ceases, they cease to have value, and the supply being the same, when the demand increases the value increases, and as demand diminishes value diminishes. It is demand which discriminates between the pearl and the shell, the diamond and the rubbish. It is because some people demand cigars that among them cigars have value, and because others do not demand them, that among them they would have no value. It is the intensity of demand that confers such enormous value on the space in the heart of London, and the gradually diminishing demand which makes land less valuable as the distance from the centre increases. What is it that gives value to the produce of the farmer? It is the demand of the people for food and clothing, and their readiness to give something in exchange for its [his] products. These wants are permanent, and, consequently, so long as they exist, the value of the land will be permanent. If it were possible to imagine that men would cease to require food or clothing, or should they change their tastes and require such food or clothing as could not be produced in England, then the value of the land would immediately die off.

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* Theory and Practice of Banking, Vol. I. p. 14.

"The value of land, then, arises from the fact that it supplies something that is wanted by men. And men invest their money and their labor in cultivating land and rearing cattle ecause they expect that they will continue to have a permanent alue. So, in the same way, it is the wants and desires of men at cause others to invest their money and labor in any puruit whatever, and which gives value to that product. The ontinued desires and wants of men in law, medicine, engineerg, literature, art, and science cause other men to devote heir money and their labor in becoming lawyers, physicians, ngineers, authors, artists, etc., etc., and so on through the hole catalogue of trades and professions. It is the demand f the public, and that only, which confers value on them. And f the demand of the public were to cease, the whole value of he labor of those who had devoted themselves to their acquisiion would be lost." *

It is evident from what has been said that a standard of value s impossible. For, supposing that the values of two commodiies have changed relatively to each other since a former exhange, in which has the change taken place ? Thus, suppose bushel of wheat was exchanged for a dollar of gold last year; ut now that two bushels must be given for a dollar. Has the old risen in value, or the wheat declined ? It is no nearer he truth to say that the wheat has declined than that the gold has risen. Suppose that ten commodities have each been exchanged for the same amount of gold for a hundred years. This year, however, one of them, sugar for example, is exchanged for twice as much gold as ever before. Has sugar, therefore, risen in value, or has the value of gold declined ? Put any examples you like, it will always be found that value is a relative expression, and, consequently, that no object can ever have a greater or less value than that with which it is compared and exchanged. So Professor Fawcett has written that "when, therefore, the general value of a commodity declines, less of every commodity can be obtained for it in exchange; but if this be so, the value of all these commodities must rise, when compared with the particular commodity in the value of which it has been supposed a general decline has taken place. These considerations demonstrate the erroneous nature of a statement not unfrequently made, that there is a general rise or fall in the value of all commodities. . . . . It is quite impossible that

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* Theory and Practice of Banking, Vol. I. p. 57.

there should be a general rise of values, for if there is a rise in the value of one commodity, there must be a fall in the value of all the commodities with which this one is compared." * The works of Adam Smith and Ricardo are badly infested with error in consequence of their failure to see this truth. Both sought after an invariable standard of value which every living political economist admits cannot be found.

Before quitting this branch of our subject we may define the meaning of price. It is the value of a commodity expressed in money. Thus Bascom says that "the price of anything is its power to command gold, silver, or that which constitutes the currency of the country. Value may be expressed in any commodity whatever: price is expressed in one commodity only." †

We are now ready to consider the causes of value. What are the causes which have led men to agree to the values that have been given to the various articles bought and sold? Though it has been the custom among political economists to treat of the causes of value instead of those of price, yet, as exchanges in all civilized countries are generally expressed in money, our investigations will be simplified if we consider the causes of price rather than those of value. But in so doing, this assumption is involved, which must be kept in view: that when the price of a commodity varies, the variation is always supposed to be produced by something which affects the value of the commodity, and not the value of money. Let us explain our meaning by an illustration. "Suppose it is observed that the price of wheat rises; this rise in the price of wheat may be due to two very distinct causes. In the one case, wheat may become scarcer, and therefore dearer; in the other case, wheat, in common with every other commodity, may rise in price, in consequence of new discoveries of the precious metals, such as those made in Australia and California during the last few years." ‡ In the following investigation, therefore, the assumption is made that variations in price are not caused by an alteration in the value of money.

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* Manual of Political Economy, p. 270.

† Political Economy, p. 222.

‡ Fawcett, Manual of Political Economy, p. 272.

hat, then, are the causes of price? They are four,
ly, difficulty of attainment, exchangeability, personal
, and willingness of deprivation.

difficulty of attainment is meant the labor or other diffi-
inhering in, or connected with, a commodity which a
n who is not the owner desires, and which he had rather
than perform the labor of attaining directly himself.
e, if an object having capacity to satisfy the desire of
er cannot be had without difficulty, it is valuable, pro-
l the person desiring it be of sufficient ability to pay for
But if a commodity has no capacity to satisfy the desire
other, or if, having it, it can be had without difficulty, the
nodity has no value. A man living in the country may
enly find the waters of his well dried up so that he has
. To him, therefore, water has become exchangeable.
it may have no value, because he can get it of his neigh-
y a very slight personal effort. But now he has gone to
ity to live. Here he wants water as before, but he finds
he cannot get it by simply going to his neighbor's well.
annot get it by direct personal effort without going a con-
able distance beyond the city. Rather than go so far, he
lling to pay some one for it in order to have it. Conse-
tly, the water paid for has value, because it could not be
without an effort, — without difficulty of attainment, —
h the person had rather pay for than make directly himself.
henever, therefore, an exchange actually takes place, price
sses or measures this difficulty. If I pay seventy-five
rs for a watch, the money expresses or represents the diffi-
of attaining it, — in other words, the labor expended in
ng it; I had rather pay this money for the labor of another
make the watch myself. But whenever an exchange does
ake place, then difficulty of attainment is only another
ssion for the labor enhancing the exchangeability of an
t. Yet it should be remembered that labor does not
s render an object more exchangeable. A man may build
se in the wilderness at vast expense, nevertheless it may
no exchangeability, because no one has such tastes and
es as the builder.

is most important to remember when difficulty of attainment is used as an equivalent or measure of price, and when it is used as expressing simply the labor bestowed upon an object.

The second cause determining price is exchangeability. This we have previously defined as the capacity of an object to satisfy the desire of one who is not the owner. Now it is evident that whenever the desires of men change, the capacity of things to satisfy their desires changes also. Moreover, it is exceedingly difficult, indeed it is impossible, to find out all the causes which create and influence the desires of men. The causes are varied, often occult, unknown. Part of them lie in the realm of moral science, into which the economist cannot go. But since this is so, since we here find a junction between political economy and moral science, the moralist should not thrust the other study rudely aside, as he often does, for he would find that by cultivating, instead of ignoring it, his power over men would be greatly increased.

So, likewise, Professor Fawcett has said that the exchangeability of "some particular article is the result of various motives, which it is almost impossible to analyze. Thus, to one individual, A, the exchangeability of one of Turner's pictures is 2,000 guineas, for A would rather give this sum than be without the picture. To B, however, the exchangeability of the same picture is only 1,900 guineas. It is quite evident that various motives may induce a greater exchangeability to be attributed to this picture by A than by B; A may be a wealthier man than B, and money may consequently not be of so much importance to him. A may also have a superior taste for art, which makes his appreciation of a painting greater than that of B. A may also be influenced by a hope of future gain, since he may expect to realize considerable sums by granting permission to have the picture engraved; or he may think that, after a few years have elapsed, the demand for the works of the particular artist may so increase as greatly to enhance the value of the picture. In every case, a great variety of motives operate upon different individuals in determining the exchangeability which each may place upon any particular article." *

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* Man. of Polit. Economy, p. 279. This is an exact quotation, except that we have substituted "exchangeability" for "value in use."

But the paradoxical proposition has been frequently declared to be true, that not only does price depend upon exchangeability, but also that exchangeability depends upon price. This paradox does not, we think, exist; nor would it ever have been declared to be true, if the distinction between difficulty of attainment as an equivalent of price and as only another expression for labor had been kept in view. Suppose a man is trying to find a house, with the intention of purchasing. After looking at several houses, he finds one that is just what he wants. It is an expensive place; the grounds are laid out with great care and skill. It is the taste and labor displayed about the place which render it so exchangeable. Satisfied that it is such a place as he wants, he then inquires the price. He has never thought of the price which the owner would ask till now. Suppose the owner is unwilling to sell the house except at an enormous price which the other is unwilling to pay. The purchaser has the means to buy, but he is unwilling to pay so much. Perhaps he thinks the owner is trying to drive a sharp bargain with him. He turns away disappointed, but afterwards he learns that the owner is willing to sell at a greatly reduced price. He purchases the house. Yet during all the time between the first examination of the house and the purchase of it its exchangeability was unchanged. Hence it is clear that the exchangeability of objects is not affected by their price; but whether *exchanges actually take place or not*, these depend upon the price of the things exchanged. Take peaches, for example. When they are first brought to market, many say, " We will not buy now, we will wait till the price is lower." They want them in the beginning just as much as afterwards, perhaps more. Their exchangeability is the same from the first to the last of the peach season; but not many exchanges are made till prices fall to a certain point.

There are many rocks which are unseen when the waters are high, that appear to view when the waters recede. Yet the rocks are there, whether the waters are high or low. So with our desires. They are as real when prices are so high that no exchanges are made, as when prices are low and exchanges frequent. The only difference is that when the prices of things rise above a certain point, the desires of men for them are unknown to the world; when prices fall below a certain point, then the desires of men are found out through their efforts to gratify them.

But there is one class of commodities, the exchangeability of which depends *primarily* upon their value. Remembering that utility is the capacity of an object to satisfy the desire of its possessor, we remark that some commodities have utility solely on account of their value. Thus a diamond is useful at the present time because it has capacity to satisfy desire. Let diamonds become plentiful, however, and not only would their value vanish, but their utility also. Nobody would want them. Now it may be properly said that those articles which are useful simply because they are valuable are only exchangeable for a like reason. But all other commodities are exchangeable because of the labor or other difficulty connected with them. This is the cause which renders them exchangeable. Yet the value of the diamond, so long as it has any, is measured or estimated by difficulty of attainment like other commodities.*

A third cause determining price is personal effort. This is one of the causes which fixes the extremes of price. Thus suppose a purchaser is seeking for a chair. He goes into a store, and finding one that he likes, inquires the price. Being told that it is ten dollars, he remarks that he will not give so much, and that if the dealer will not sell it for nine dollars, he will make one himself. Personal effort, therefore, is the cause that fixes the highest price for the chair. As it is a cause determining the highest price of things, so likewise does it determine the lowest. But what do we mean by the highest and lowest price of a commodity? The first term is easily enough understood. The highest price is the most which a purchaser will pay for a thing. But what is meant by the lowest price?

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* This was the assertion really made by Bastiat in his "Harmonies of Political Economy," and which Professor Cairnes has recently attacked. Fort. Rev., Vol. XIV. p 424. But the error into which we think the latter has fallen is in considering the difficulty of attainment paid for as the difficulty expended by the finder of the diamond. This is only a partial consideration of the whole fact. The price paid for the diamond measures the difficulty of attainment which the purchaser had rather pay for than undertake himself. That is to say, the difficulty actually paid for is the one which the purchaser himself would probably have to overcome in order to find the diamond.

Will not a man get a thing for nothing if he can? Most assuredly; nevertheless we cannot think of a preferable expression. By lowest price, we mean the least that the dealer actually will sell for, and at which he must sell, else the purchaser will obtain the thing desired by a direct personal effort, or by that of some other person.

Willingness of deprivation is the fourth and last cause determining price. When vulcanized rubber goods were first made, they constituted a monopoly as long as the patent existed, so that no one could make them but the patentee and those whom he permitted. A, the purchaser, desires a pair of boots, but B, the monopolist, will not sell them for less than ten dollars. A's unwillingness to be without the boots leads him to give this price. But he would give no more. Either he would get them by personal effort (supposing that he could make them), or he would deprive himself of them rather than buy at a higher price. Thus we see that A's personal effort, or willingness of deprivation, determined the highest price which he would pay for the boots. The same cause may determine their lowest price. The monopoly has expired. A wishes another pair. But now he tells B that he will not give him but four dollars a pair. Why not? Why is he willing to deprive himself of them if he cannot purchase at that price? Because he believes he can buy elsewhere for the price he offers. Willingness of deprivation, therefore, is a cause determining price, for no exchange can take place unless the price comes within the limits which men will pay.

Moreover, willingness of deprivation cannot be resolved into any other cause of price. It is easily distinguished from exchangeability, for that quality may, as we have seen, inhere in an object after willingness of deprivation has prevented a transfer of the ownership thereof.

Let us now inquire when the highest and lowest prices are paid for things; and, also, what is the reasonable price towards which all things are tending.

First, whenever a commodity constitutes a monopoly, then the highest price is paid for it.

Secondly, whenever the supply of a commodity is unlimited,

— that is, when it can be produced without increase of cost, — then the lowest price is paid for it.

Thirdly, the reasonable price of a commodity is the cost of production, by which is meant the money paid for labor, material, etc., together with a reasonable sum for profits.

Let us test the correctness of these principles by applying them to actual exchanges.

Formerly, the screw part of the metal screw had a flat end, so that a hole had to be made in the wood previous to the insertion of the screw. But in 1846 a screw was invented having a point like a gimblet, which could be inserted into pine and other soft woods, such as are most commonly used, without first making a hole. The great advantage of using this screw will be readily seen. It always fitted the wood snugly, and held the pieces secured by it firmly together, while it could be put in more quickly than the old-fashioned screw. Thus it had a greater utility, and likewise a greater exchangeability, than the other. Being a new and useful invention, the patentee had the exclusive right of making it for the succeeding eighteen years. By agreement with the patentee, a company was organized, which began the manufacture and sale of these screws. The company fixed a price at which they were sold, which was not altered very much during the whole time in which the company had the exclusive right of making them. As this company alone could make them, it is evident that they were not obliged to make any at all, or if they did, they could dictate the price at which they could be purchased. Hence it was in their power to sell at the very highest price which people would pay rather than go without. They could fix a price so high that no one would buy them; they could lower it so that only a few would buy, or they could diminish it so low that many would purchase. The price, however, which the company sought to fix was the highest price at which the screw would be generally sold in the place of the old-fashioned one. It was a comparatively easy matter to determine what this price should be, for they could tell by observation and inquiry whether these screws were used in the place of the old ones, and whether they were used where they should be, instead of something else in their place. And as the screws came into general use soon after their manufacture began, it was evident that the company had set as low a price as was necessary, in order to make extensive sales.

But it is not always easy for the monopolist, in the beginning, to ascertain what is the highest price which he can set upon his monopoly in order to reap the largest profit therefrom. For be it remembered that the monopolist does not always seek to set a price at which the largest quantity can probably be sold, even though he should get a reasonable or great profit from his sales; but rather the highest price at which the largest quantity will probably be sold from which the greatest aggregate profits can be realized during the time in which he has the exclusive right of controlling his monopoly. Thus suppose the monopoly consists of the right to make and sell rubber goods. At first, rubber boots are sold at eight dollars a pair. We will suppose that half of this sum is profit. Thinking that the sales will be largely increased by a reduction of price, the boots are afterward sold for six dollars a pair. More purchasers are found at the latter price than at the former, but as the profits have been reduced one half it is now necessary to sell twice as many goods as before, else the aggregate profits are diminished by the reduction of price. If, therefore, it is found upon trial that a diminution of price does not bring as large aggregate profits as the former price, then a higher price is set upon the goods. And as the monopolist can control the price of his monopoly, whatever it may consist of, to the extent of it, so can he coldly squeeze out of men by trial the highest price which they will pay for his things rather than not have them, without fear of losing his trade or of being undersold, for there is no one to compete with him. This trial of the market, in order to ascertain the best price at which goods can be sold, has been aptly termed by Adam Smith "the higgling and bargaining of the market."

We might have given a simpler illustration, showing how the monopolist can control the highest price of his monopoly. We will suppose him to be the owner of a fine picture by a celebrated master. It is the only one of the kind which the master has ever produced. The owner offers it for sale at the highest price which he thinks any one is willing to pay. Suppose the price to be ten thousand dollars. A dozen men offer five, three offer seven, two offer eight, and one offers nine thousand dollars for the picture. This is the highest price offered, and at which the owner must sell, if he sells at all. Having a monopoly, therefore, he is so situated that he can draw out the desires of men without losing his picture, and, consequently, can get the very highest price which any one is willing to give.

Another form of monopoly may be mentioned, namely, distance from another market. Let us illustrate the character of this monopoly. On the line of the Chicago and St. Louis railroad lives a miller, who at one time sold a portion of his flour to his neighbors for eight dollars a barrel, and sent the rest to St. Louis, which, after payment of ten cents per barrel for freight, he sold for seven dollars. Hence, he received one dollar and ten cents more upon every barrel sold at home than upon each one sent to St. Louis. Yet it was cheaper for his neighbors to pay him eight dollars than go to St. Louis and buy the flour for six dollars and ninety cents a barrel.

The extent of this monopoly may be easily enough ascertained. It is the difference between the merchant's time and expense of travelling to the market where the things are bought, and the time and expense of his customer. Thus suppose that the expense of doing a retail business in New York and Chicago is the same, and that the merchants at both places intend to sell so as to clear the same net profits. The New York merchant buys a certain kind of silk of an importer and sells the same for three dollars a yard. Now supposing that the Chicago merchant was amply repaid for the cost of transportation, travelling, etc., if he sold the same silk at three dollars and twenty-five cents per yard, yet if he actually sells it for three dollars and fifty cents a yard, the additional twenty-five cents in price is a monopoly which he enjoys in consequence of being so far away from the New York market.

The same principle may also be illustrated in the case of several kinds of labor. A noted artist is a monopolist. He may charge the highest price, and people will readily pay. So with a distinguished lawyer and physician. A Webster or Mott has the field to himself; he can make his own prices. So ith some other men. But in proportion to the number of men xercising the same calling, and having the same skill, does the onopoly decline. Whenever, therefore, labor constitutes a onopoly, its price is controlled by the laborer.

From what we have said, we think the reason clearly appears hy every dealer seeks, so far as he can, to make the thing he lls a monopoly. For if he succeeds, then he can get the ighest price for it, in other words, the highest price any one ill pay; while if he does not succeed, then he can get only e lowest price, that is, a price which, if raised at all, the pur- haser will not pay; for either he will acquire the thing by ersonal effort or obtain it from some other dealer. Let us state this idea in other language. The dealer, if he be a onopolist, can get the difference between the lowest and high- t price which a purchaser will pay for a thing; while if he e not a monopolist, the purchaser saves the difference for imself. Is it strange, therefore, that every dealer should try become a monopolist, seeing that he has this advantage, that e can get the highest price which the purchaser will pay for is monopoly? So we find all sorts of combinations among en in order to make monopolies out of their trades, products, nd professions. This is especially noticeable of late among rail- ays. They combine for various reasons, but a prominent one to control the price for carrying freight and passengers. nd just here, in illustration of what we are saying, may be entioned a monopoly enjoyed by Commodore Vanderbilt and his friends last winter during the time when the Erie Canal was closed. This was the only avenue for transportation between various places, except the New York Central Railroad. When, therefore, communication by way of the canal was stopped on account of ice, the owners of the railway had a monopoly, which they enjoyed to the fullest extent. Mr. Mill gives a very interesting illustration of the way in which a monopoly was created. The Dutch East India Company at one time owned the Spice Islands, and could control the quantity of produce to be sold. In consequence of being able to limit the quantity, they "obtained a monopoly price for the produce" sold. "But to do so they were obliged, in good seasons, to destroy a portion of the crop. Had they persisted in selling all that they produced, they must have forced a market by reducing the price, so low, perhaps, that they would have received for the larger quantity a less total return than for the smaller; at least they showed that such was their opinion by destroying their surplus." *

We cannot stop longer to point out other forms of monopoly, but some of them will come to light in connection with other parts of our subject. Besides, whether an article constitutes a monopoly or not, or whether men are seeking to make a monopoly of a particular thing or not, can generally be determined by slight observation. But this is true, that whenever a monopoly exists, whatever it may consist of, the monopolist, to the extent of his monopoly, can get the highest price for his commodities.

Let us, therefore, take up the second principle, and test its correctness by applying it to other exchanges. Take the case of common cotton goods. They can be manufactured to an almost indefinite amount without increase of cost. But there is no monopolist to squeeze out the highest price which the purchaser will pay rather than go without them. In the case of the screws, the monopolist could get the highest price for them because he could control the quantity to be made. He had one end of the string, and that the most important one, which no man could take away. But now the situation is reversed. The purchaser can buy at the lowest price. If the dealer charged any more, the purchaser would go away with the expectation of purchasing of some one else.

The same principle determines the price of common labor. As the number of this class to do the work which they are capable of performing is practically unlimited in very many places, so are their wages the lowest price that they will work for, for which if they will not labor, the employer will either stop his mill or employ others. In fact, the amount of work to be done may be regarded almost as a monopoly, so that the employer can fix his own price. He can give such a price as will just keep the laborer from starving; if he give less, the state must make up the deficiency or the laborer will starve. But as the state will, though imperfectly, protect people from starva-

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* Princ. of Political Economy, Vol. I. p. 552.

tion, so the monopolist must, in common with others, pay the expense of this protection by way of taxes. It is usual, therefore, to pay the laborer enough to prevent him from starving. It is true that in this country we pay more than this. But if we do, what is the reason ? Because many of the laborers are, to a certain extent, monopolists also. They have capital of their own, so that, if their labor will not support them, they will not starve. And if they cannot make a satisfactory bargain with their employers, and yet have no capital so as to defy them and compel them to raise the rate of wages, still, the great West is open to them, inviting them to come and till her fields. So long as we have such broad acres of cultivable but uncultivated land, the monopolist will be prevented from reducing wages to the starvation point. Nature has put within reach of the son of toil a counter-monopoly, with which he can successfully defy the monopolist.

And now the light breaks forth to clear up the darkness created by the monopolist. As his selfishness leads him to accumulate the largest aggregate profits from his monopoly, so do these high profits, by exciting the selfishness of other men, draw them into the production of the same things, whenever it is possible. Thus it often happens that if a business is exceedingly profitable, others will press into it until production becomes so great that the cost of producing will not be realized. One illustration will suffice. So long as the patent for making vulcanized rubber goods was in force, the owners of it realized great profits therefrom. But upon the death of the patent, so many rushed into the same business that the succeeding gains of the monopolist melted quickly away. So is it ever with monopolies. The selfishness of men which inspires them to create monopolies is counteracted by the selfishness of others, which brings about, sooner or later, their destruction. Hence, while one party in the industrial world is trying to build up monopolies, another party is equally zealous in tearing them down.

Having shown when the highest and lowest price is paid for commodities, we shall make a few observations upon the reasonable price towards which all commodities are tending. And it may be said that this is the ultimate price which will be paid for all things. For no man will continue to produce permanently at a loss; indeed, he could not do so if he wished, for he would inevitably become a bankrupt. So Mr. Mill says, "Capitalists will not go on permanently producing at a loss. They will not even go on producing at a profit less than they can live upon. Persons whose capital is already embarked, and cannot be easily extricated, will persevere for a considerable time without profit, and have been known to persevere even at a loss, in hopes of better times. But they will not do so indefinitely, or when there is nothing to indicate that times are likely to improve. No new capital will be invested in an employment, unless there be an expectation not only of some profit, but of a profit as great (regard being had to the degree of eligibility of the employment in other respects) as can be hoped for in any other occupation at that time and place. When such profit is evidently not to be had, if people do not actually withdraw their capital, they at least abstain from replacing it when consumed. The cost of production, together with the ordinary profit, may therefore be called the *necessary* price, or value, of all things made by labor and capital. Nobody willingly produces in the prospect of loss. Whoever does so, does it under a miscalculation, which he corrects as fast as he is able." *

Let us give one other illustration for the purpose of bringing into a single view the existence and operation of the foregoing principles. Several years ago checked woollen clothing was extensively worn, it being then fashionable. In the beginning, the quantity that could be obtained was quite limited, and as its exchangeability suddenly increased, it constituted, indeed, a monopoly to a limited extent. The profit to the manufacturer being large, others began to make the same goods as soon as they could, so that the profits on them rapidly fell away to the cost of production. But after a time, fashion made a new decree that checks should no longer be worn. Immediately the exchangeability of the goods declined. Those who followed the decrees of fashion, if daring to trample so far upon her laws as to wear out what checked clothing they had, bought no more. True, some were unmindful of her dictates, and were willing to wear checks still; to others these goods had always had a certain degree of exchangeability, and when the merchant was willing to sell at a price corresponding with their exchangeability to these purchasers, they were ready to buy. In the beginning, the manufacturer was a qualified monopolist, that is, he controlled the supply for a time, and so fixed the price; in the end, the exchangeability of the goods rapidly declined, so that the purchaser fixed the price; but afterwards, the quantity on hand having diminished, the final price was determined by the cost of production.

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* Princ. of Political Economy, Vol. I. p. 555.

It is evident, therefore, that the reasonable price, which is the cost of production, will be the ultimate price of all things. This price will also equalize the division of gains so that no one shall get more or less than he ought to have. It is beyond our space to show that the number of commodities bought and sold at a reasonable price is constantly increasing, yet the evidence of this fact could be abundantly produced.

The difference between the highest and the lowest price of a commodity is often modified by various causes which we may call extrinsic. Thus a man may pay more for a thing because of his friendship to the seller, or sympathy for his condition. People will pay more for things at fairs and festivals in order to aid the objects which such associations represent. So the members of a community may trade at a particular place, even though they pay a somewhat higher price for their goods, on account of the known character of the dealer for honesty, politeness, etc. Again, the desires of a purchaser may often be veiled so that he does not actually pay as high a price as he would, if, his mind being like a piece of glass, the dealer could see what his real desires were. The same is also true of the dealer. But these are seeming, not real, exceptions, to the laws that have been set forth.

Having stated when the highest and lowest price is paid, and also what will be the ultimate price of things, it may be necessary to say something further concerning the fluctuations of price. If, for instance, the price of wheat is one dollar per bushel to-day, and one dollar and a quarter to-morrow, what has produced the change? Many would say it has been produced either because the quantity to be had has diminished or the quantity desired has increased. But this is not always true. Thus suppose that three men are each desirous of purchasing a particular horse, and that each one is willing to give one hundred dollars for it, and no more. Is it not evident that no greater price can be obtained for the horse because there are three customers than if there were only one ? * The same is true in respect to many of the transactions of life. People will give a certain sum for a particular thing, and no more ; no matter whether the quantity that may be had is more or less. The reason of this in many cases is that if the things cannot be purchased at a given price, others are purchased as substitutes therefor. Consequently, if the quantity of a commodity becomes much reduced, the dealer may yet be obliged to sell at the old price, or no one will buy. Remembering, therefore, that personal effort and willingness of deprivation always fix the extremes of price, we remark that the fluctuations in price are the consequences of a change in the exchangeability of things. So long as this is unchanged, whether the article itself becomes plentiful or scarce, its price will remain the same. It is true that when the quantity of a commodity diminishes, its exchangeability often increases, and *vice versa.* Suppose, for illustration, that the wheat crop is only half as great this year as last, so that all cannot have their wants supplied if they remain the same as before. I say to myself, " The wheat crop is short this year, but I mean to have all that I want, whether others get all they want or not." Others say the same thing. It, therefore, becomes more exchangeable, so that all are willing to pay a higher price. Take another example. I noticed not long since that the price of laths in the New York market had advanced a little. What was the reason of this advance ? It was suddenly found that the quantity on hand was quite limited, and the dealers believed that all the laths in market, and more, would be needed at once to finish the buildings in process of construction. The dealers took advantage of this state of things to increase the price. They became in fact qualified monopolists, that is, they sought to control the price to a certain extent. When the condition of the market was found out by the builders, they rushed to the dealers to get their wants supplied in order to complete their work. The exchangeability of the laths suddenly increased, — the builders were willing to pay more for them, — and so the dealers could get the additional price which they had fixed. But suppose the builders had met together and agreed not to pay the advance, but to send elsewhere for their supplies, would the advance have continued? Certainly not; it would have sunk down till the purchases were sufficient in number and quantity bought to satisfy the dealers. So it will be found in every case. Personal effort and willingness of deprivation fix the extremes of price, while the variations between them are dependent upon exchangeability, which in turn is affected by many causes, the chief of which may be mentioned as difficulty of attainment.*

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* Mr. Thornton has succeeded in showing that the law of supply and demand, at least as generally stated, is very defective ; that if it were true, prices should often rise when they do not, and *vice versa.* (" Thornton On Labor," Chap. I.) Though succeeding in this, his attempts to replace it by a law, namely, competition, we think Mr. Mill has shown to be a failure. See review of Thornton's book by J. S. Mill, Fort. Rev., Vol. II. pp. 505 - 518.

ALBERT S. BOLLES.

ART. III. — 1. *The Political and Historical Works of* LOUIS NAPOLEON BONAPARTE. 2 vols. London. 1852.

2. *Histoire du Second Empire.* Par TAXILL DELORD. 3 vols. Paris. 1869-1873.

3. *La Lutte Électorale en* 1863. Par JULES FERRY. Paris. 1863.

4. *Du Suffrage Universel et de la Manière de voter.* Par H. TAINE. Paris. 1872.

5. *La Réforme Électorale en France.* Par ERNEST NOVILLE. Paris. 1871.

UPON no other feature of the government of Napoleon III. has perhaps so great stress been laid by his apologists and supporters as upon that of universal suffrage. The position has often been taken, that, whatever charges may be preferred and sustained against the Second Empire, the fact is undeniable that the Emperor received the hearty support of the people, — of the people, too, in the enjoyment of universal suffrage. Many even who themselves have no words of favor for some of the features of that government, claim that it was entitled to support on the very principles of republicanism itself, inasmuch as the result of repeated elections showed that it was the government which a vast majority of the people desired. In the light of such recent authorities as have come to us, we propose to examine the correctness of the claims thus advanced. We shall first inquire into the views of Napoleon concerning the political rights of the masses of the people, and then we shall try to ascertain how far these views were carried out when he came into actual power.

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* Or labor.

During those turbulent years which intervened between the Revolution of 1830 and the *Coup d'Etat* of 1851 Louis Napoleon took care that the people of France should not be ignorant of his political opinions. Scarcely was Louis Philippe seated on his throne when the publication of the "Political Reveries," embodying Napoleon's "Ideas of a Constitution," made the nation fully aware that Napoleonism had still a living representative, and that this representative entertained definite and positive ideas in regard to the manner in which France should be governed. One who, at the present day, looks over that pamphlet, is surprised that it left no more permanent impression upon the minds of the French people. But then, again, we cannot help reflecting that, in the days of the Republic, those days when the people needed to know what Napoleon had written, there was no freedom of the press, and consequently no revelation and discussion of the thoughts and purposes that the President was entertaining. At the present day it is easy to see that the people had abundant reason to anticipate the ultimate establishment of an empire; for, whatever may be thought of the means by which the imperial throne was set up, it must be admitted that the *fact* of its establishment was entirely consistent with the views which, from the first, Napoleon had advocated. It is a fact of no small importance, that in his first sketch of a constitution, published as early as 1832, the whole scheme of his government was foreshadowed. This instrument reminds one of the "*Souper de Beaucaire*," written by Napoleon I. when he was yet a student; for both of these essays, though inherently very unlike, sketched out, with surprising accuracy, the courses which their authors were subsequently to pursue. It is at first thought one of the surprising elements of the Revolution of 1848, that the people were willing to intrust the destinies of the Republic to the hands of one who was so pronounced an Imperialist; but an easy and complete explanation is to be found in the fact that the people cared very little for republicanism, while they cared very much for stability and order. Contrary to the popular impression in America, and for reasons perfectly easy to explain, the masses of the French people, since the overthrow of the First Empire, have shown themselves to be eminently conservative. Amid all the revolutions and political discords that have distracted the country, one feeling has been dominant in the hearts of the peasantry, one ambition has inspired them, one impulse has directed them. Whatever innovation they have had forced upon them, they have accepted it willingly, provided it has brought, or even promised to bring, security to their possessions and their earnings. This fact was the supreme element of strength in the cause of Napoleon III. He early discovered it, and he kept it constantly in view. Of all the Napoleonic family, as Monsieur Delord assures us, this nephew of the first Emperor alone had faith in the restoration of the dynasty; and this faith, it might be added, was founded on a thorough understanding of the desires and sympathies of the great mass of the French people. Inspired by this understanding of the peasantry, and encouraged by this confidence in the future destiny of his family, he had no difficulty in determining what course to pursue. It was only necessary that he should keep himself and his political doctrines before the people; the time would evidently come when both he and his theories, if acceptable to the nation, would be called into action. He took good care that both of these conditions should be fulfilled.

In the early political essays of Louis Napoleon two dominant ideas prevail: the first, that the people are the supreme authority in the nation, the second, that the reins of government should be in the hands of an emperor. Beginning with the saying of Montesquieu, that "the people, in whom is the sovereign power, ought to do by itself all that it can," he proceeds to show how the will of the people has been stifled, and how the welfare of the nation depends upon its being set free. All political power, he argues, must emanate from the people, and yet, to prevent its abuse, it must be under the constant guidance of a controlling hand. There are two things to be dreaded, absolute power on the one hand, and the Reign of Terror on the other. Under the name of Napoleon there is no occasion to dread the latter, under the shadow of a republic there can be no apprehension of the former. What France needs, then, is a form of government in which the whole people, without distinction, should take part in the election of representatives of the nation. The "masses, which can never be corrupted, and which can never flatter nor dissemble, must be made the constant source from which all power should emanate." "From the opinions which I advance," he says, "it will be seen that my principles are entirely republican." "If, in my scheme of a constitution," he continues, "I give preference to the monarchical form of government, it is because I consider that such a government would be best adapted to France; because it would give greater guarantees of tranquillity, greater strength and greater liberty than any other." Again he says, "At the accession of each new emperor, the sanction of the people will be required. If the sanction is refused, the two Chambers will propose another sovereign in his place. As the people will not have the right of election, but only that of approval, this law will not present the inconveniences of an elective monarchy, which have always been a source of discussion; it will, on the other hand, be a security against political convulsions." Then, coupled with these privileges of the people, there must be the "right of expressing their thoughts and opinions, whether through the medium of the press or in any other manner; as well as the rights of peaceably assembling, and of the free exercise of divine worship."

As early then as 1832 the people of France were informed with considerable clearness respecting the political doctrines of Napoleon. These theories, moreover, in the course of the following sixteen years, were often reiterated, but always without important modification. In 1839, for example, the "*Idées Napoléoniennes*" presented the same political notions in a more elaborate form. This somewhat pretentious essay was little more than the body of the former one clad in another and more seductive costume. The profusion of ornaments brought from the glorious days of the First Empire, and paraded in contrast with the poverty-stricken degeneracy of these latter days, served only to advocate a return to the imperial *régime*, and to reveal the good things in store for the people in case they should avail themselves of their legitimate sovereignty. Again, in 1841, the author took occasion to revive his favorite theme, and to elaborate more fully his ideas of the true sphere of a monarch. Guizot's History of the English Revolution had just been published, and had presented to the public in a powerful light the opinions of that eminent statesman in regard to what should be the position of the constitutional sovereign on all matters of national policy. The view advocated by Guizot was that which he afterward in the service of Louis Philippe so well exemplified, namely, that the monarch should be a moderator or manager of diverse influences in the state, rather than a leader of public opinion. Nothing could be more opposed to the Napoleonic idea of a government. It had been no part of the First Emperor's policy to wait for an expression of popular opinion before he took action; it had been his habit rather to act independently of that opinion, and to trust to the moral force of the accomplished fact for its ratification. The nephew was no more inclined to follow the lead of the people than was the uncle. When, therefore, Guizot's history appeared, it afforded the prisoner at Ham an opportunity which he was not likely to neglect. He needed to keep himself before the people, and to have the people entertain what he believed to be correct notions of the proper relations of the governing and the governed. Both of these ends he did something to obtain in the paper referred to. Reviewing the whole period of the English Revolution, he had no difficulty in finding material which he could press into the service of Napoleonism. Guizot had taken the ground that the great fault of the Stuarts was that they never recognized the spirit of the age; in other words, that they set up for themselves an ideal of royalty which was utterly repugnant to those aspirations for liberty that had now become all pervasive and irresistible. The Stuarts, he maintained, should have submitted to the inevitable, should have allowed themselves to be led in the same manner as the monarchs of England are led at the present time. Bonaparte, however, arrived at a far different conclusion. While he recognized the failure of the Stuarts, he saw that they could have succeeded only by adopting a method very different from that suggested by Guizot. They should have put themselves at the head of the ideas of their age. It was the part of monarchy to lead, not to be led. The English Revolution should have resulted in the establishment of royalty upon a firmer basis, not chiefly through the efforts of the people dragging on the monarchs, but through the exertions of the monarchs supported and encouraged by the people. "Revolutions conducted by a chief," said he, "generally turn exclusively to the advantage of the people; for to insure success, the chief is obliged to give himself up to the national spirit; and to support himself he must remain faithful to the interests which secured his triumph; while, on the contrary, revolutions made by a multitude often turn to the profit of the chief only, for the reason that the people think on the morrow of victory that their wish is accomplished, and it is in their nature to discontinue for a long period all the efforts which were requisite to obtain that victory." It was in accordance with this general law, argued Bonaparte, that the Stuarts failed utterly and that William succeeded. The former made war simply to support their tottering power, the latter solely to increase the influence of England. "The Stuarts ruled by means of the crowd, and beheld only confusion around them; William saw the object at once, rushed forward, and drew the crowd after him." Finally the Prince sums up and concludes his essay in this *ad-captandum* manner.

> "The history of England calls loudly to monarchs: —
>
> "MARCH AT THE HEAD OF THE IDEAS OF YOUR AGE, AND THEN THOSE IDEAS WILL FOLLOW AND SUPPORT YOU.
>
> "IF YOU MARCH BEHIND THEM THEY WILL DRAG YOU ON.
>
> "IF YOU MARCH AGAINST THEM THEY WILL CERTAINLY CAUSE YOUR DOWNFALL."

Thus in the early writings of Napoleon III. we find three dominant political ideas. He maintains, first, that all political power dwells in the people and emanates from the people; secondly, that the official to be at the head of the French people should be, not a president, but an emperor; and, thirdly, that the initiative of all political innovations should be taken, not by the people or by their legislative representatives, but by the monarch.

Now in these three propositions are there not bound up all the evils that came upon France during the public career of Napoleon III.? They do not, perhaps, embody the possibility of his first acquiring power, — that depended in large measure upon the character of the government already existing, — but when once the power was in his hands, did they not open to him every possibility of usurpation? It may be answered that, according to his "Ideas of a Constitution," the people were to have the reserved power of a negative upon his acts, and that therefore they were always to have in their own hands the means of restraining him. This answer is specious, and yet it is fraught with error. In every nation where the government alone has the right of initiative according to the Napoleonic idea, the sole power of the people is to choose whether to the appeal of the government for support it will say "yes" or whether it will say "no." All the provisions of a constitution, be that constitution ever so complicated or ever so simple, can do nothing more for the nation than to provide a means whereby the people may give a categorical answer to such questions as the emperor may see fit to propound. Under circumstances ideally favorable, an honest expression of public opinion on a question so proposed might be secured; but under ordinary circumstances such an expression would always be impossible. The question would often take the form of a choice between two evils, when it would be decided in the affirmative by that universal disposition of human nature that

. . . . makes us rather bear those ills we have,
Than fly to others that we know not of.

It is readily admitted that such a method of voting may, for certain purposes, be quite legitimate, and entirely unobjectionable. Such would generally be the fact in all cases where it would be equally easy to foresee the results of a negative and of an affirmative vote. But in a nation where the government alone has the initiative, the result of a negative vote can never be foretold with any degree of certainty. In a land, too, like that of France, where to a large extent the peasantry own their homes, such uncertainty is especially intolerable. The consequence is that whenever the French people have been appealed to by *plébiscite*, they have not only in every case answered in the affirmative, but their majority has amounted often almost to unanimity.*

These facts were perfectly understood by Louis Napoleon. In his "Napoleonic Ideas" he placed these figures in array, not, indeed, for the purpose of showing the only thing which they are capable of showing, but in order to convince the people of the extraordinary popularity of his uncle's political ideas. It is at least apparent that he was familiar with the results of the appeals that had been made, and it is impossible to suppose that he had not interpreted their true meaning. It is fair to say that he could not but have seen that the French people, if asked to give either their assent to *un fait accompli* or their dissent from it, would, in all probability, support it with an overwhelming majority. History and human nature both pointed to the same result. He must have seen, therefore, that he needed only to secure a position from which he could appeal to the nation. With the sole right of initiative once in his possession, and with that almost absolute certainty of support which the situation necessarily secured, there could be no further obstacle in his way.

We have thus seen that the political sovereignty of the country would practically pass into the hands of Napoleon in case

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* The following figures will serve to show the force of the circumstances to which we have alluded: —

	Oui.	Non.
Constitution of 1791 (not submitted to the people).		
" " 1793	1,801,018	11,600
" " the year III.	1,057,390	49,977
Temporary Consulate	3,011,007	1,562
Consulate for life	3,568,888	8,374
Hereditary Empire (1804)	3,521,675	2,579
Presidency of ten years	7,439,216	646,737

of his elevation to power. This, however, does not prove that such a change would be disadvantageous to the nation. Whether it would or would not depends upon the character of the ruler and the political condition of the people. If the masses of the people are so devoid of political ability as to take no serious interest in political affairs, or if, indeed, for any reason, they are unable to govern themselves as well as they would be likely to be governed, the only practical question then is, Who should govern them? Shall it be a person upon whom are imposed certain practicable constitutional restraints? or shall it be one who takes the power into his own hands, leaving with the people only so much as they can never use? There would appear to be no doubt that the choice of the former would always be the safer; and yet it must be admitted that, under conceivable circumstances, the latter might be deliberately chosen as the only possible cure for anarchy. Did such circumstances exist in France? Whatever others may think, it is certain that every Frenchman would answer the question with an emphatic negative. It would not for a moment be admitted that Louis Napoleon was chosen because the nation despaired of governing itself; on the contrary, it is maintained that he was accepted as the best *means* of governing itself. He was chosen as President for no other reason than because he had captivated the people with his name, his ideas, and his promises.

We have glanced at the fundamental character of his political ideas; it may be well to look for a moment at the nature of his promises.

The necessity of assurances of more than ordinary force were doubtless apparent to the mind of Napoleon. He must have seen that the nation would never consent to deliver itself over into the hands of a master until it was at least convinced that the proposed master would not abuse his power. Accordingly, not only in his essays, but also in his letters, we have the most emphatic declarations which it would be possible to make. In the essay on the "Extinction of Pauperism," which he wrote when imprisoned at Ham, a plausible appeal was made to the masses of the nation. The author draws a vivid picture of the deplorable condition of the working classes: —

"Industry has now neither rule, nor organization, nor aim. It is an engine which works without a regulator. It cares nothing for the human force it employs, crushing men and materials equally under its wheels. It depopulates the country; conglomerates the people into small spaces without room to breathe; weakens the mind as well as the body, and afterwards throws these men on the world, when she no longer requires them, — men who have sacrificed their strength, their youth, and their existence to her service. Industry devours her children and lives only by their destruction; she is the true Saturn of labor. Must we, then, to remedy these defects, place her under a yoke of iron, rob her of this liberty which is her sole existence; in a word kill her because she is a murderess, without profiting by the immense benefits which she confers? We think it is sufficient to cure those she has wounded, and to protect her from wounds."

Having thus stated the case, the essayist proceeds to show how all the benefits of good society might be disseminated among the working classes. There is a great array of figures to demonstrate how large a part of the lands of France remain uncultivated, how on a sort of joint-stock principle the unemployed laborers might be formed by the government into affluent communities, and how in this manner "pauperism might be extirpated, if not entirely, at least in a great measure." The plan proposed was a kind of socialism, exactly fitted to captivate that large class of people in France which is ever waiting for some new phantasm, — the same class which, a generation before, had gone into ecstasies over the dreams of Mably and Saint-Just. From this presentation of Bonaparte's views, the common people had a right to regard him as pledged to the rapid amelioration of their condition in case of his elevation to power.

But other and more definite assurances were not wanting. The numerous letters with which he regaled his friends were filled with articles of political faith, all teaching and enforcing the same doctrine. In public and in private he apparently neglected no opportunity to make his views known. In September of 1840, when he was brought to trial for the affair of Boulogne, he founded his defence exclusively on the fact that the people in the nation were sovereign, and that in their sovereign capacity they had elevated his family to supreme political power. That sovereignty, he assured his judges, had been consecrated by the most powerful revolution in history. It had expressed itself in favor of the Constitution of the Empire with suffrages almost unanimous. That grand act of sovereignty the nation had never revoked; and, as the Emperor had declared, "Whatever has been done without its authority is illegal."

Here, it will be seen, was an open defiance of the authority of Louis Philippe. The declaration clearly meant, if it meant anything, that the Empire was at that moment the legally established government in France. To his assertions on that point he added these words: —

> "At the same time, do not allow yourselves to believe that, led away by the impulses of a personal ambition, I have wished by these acts to attempt in France a restoration of the Empire. I have been taught too noble lessons, and have lived with too noble examples before me, to do so. I was born the son of a king who descended without regret from a throne on the day when he had reason to believe that it was no longer possible to conciliate with the interests of France those of the people whom he had been called to govern. The Emperor, my uncle, preferred to abdicate the Empire rather than accept by treaty the restricted frontier, while he could not but expose France to the insults and the menaces in which foreign nations to this day permit themselves to indulge. I have not lived a single day forgetful of these lessons. In 1830, when the people recognized their sovereignty, I expected that the policy of the following days would be as loyal as the conquest itself, and that the destinies of France would be established forever. Instead of this the country has undergone the melancholy experiences of the past ten years. Under such circumstances, I considered that the vote of four millions of my countrymen, which had elevated my family to supreme power, imposed upon me the duty, at least, of making an appeal to the nation, in order to ascertain its will."

This address, cleverly compounded of truth and falsehood, and spoken in the ears of all Frenchmen, when stripped of its conventional circumlocution proclaimed these political doctrines. The people of France are sovereign. In their sovereign capacity they chose the hereditary empire of Napoleon as their government, and they have never revoked that choice. That empire, therefore, is now *de jure* the government of France, and I am *de jure* the Emperor. That I abstain from claiming the imperial throne is not because I have no right to it, but because I have learned from the examples of my father and my uncle to practise self-denial when the welfare of the nation requires it.

Now it is difficult to conceive how any more dangerous doctrine could have been enunciated. There was embodied in it the perpetual right to wage war upon the government for the recovery of lost possessions. Under ordinary circumstances such a declaration would, of course, be of no importance; but in view of the dissatisfied condition of the nation, in view of that great stress which Bonaparte had laid upon the sovereignty and welfare of the people, by which he had already secured great popularity with the masses, and, above all, in view of the powerful spell which the name of Napoleon continued to work upon the nation, it is strange beyond measure that the danger was not more fully comprehended. It would seem that ordinary intelligence must have perceived that there was needed only the factor of unscrupulousness to make the conditions of every evil possibility complete. In case an opportunity should come within reach, everything would depend upon the integrity of a man who had as yet given no proof of political virtue, and whose ideal, furthermore, was the hero of the 18th Brumaire.

Bonaparte did not fail to guard against the fears which would be naturally aroused by these various circumstances. His writings abound in expressions calculated to allay them. He gives a sufficient amount of assurance, and expresses a becoming horror of political dishonesty. To the editor of the *Journal du Loiret* he wrote from Ham in October of 1843: —

> "I have never claimed any other rights than those of a French citizen, and I never shall have any other desire than to see the whole people, legally convened, choosing fully the form of government which they might think it best to have. As a member of a family which owes its elevation to the suffrages of the nation (*sic!*) I should belie my origin, my nature, and, what is more, I should do violence to common-sense, if I did not admit the sovereignty of the people as the fundamental basis of all political organization."

In commenting upon this letter the editor of the *Journal du Loiret* used these words: —

> "It is an evidence of the all-powerful virtue of the democratic principle, and it is also an evidence of high-mindedness, to see a man of

royal blood, heir to a throne, a young prince, intelligent and proud, popular for the name he bears and the glorious souvenirs which that name recalls, thus ridding himself of monarchial prejudices, abdicating the privileges of his race, and paying a solemn homage to the sovereignty of the people. We highly compliment Prince Louis for the noble sentiments expressed in this letter."

Such expressions as these, though rather too suggestive of Sir Peter Teazle, are of some value as showing how the Prince's professions were regarded. Strictly speaking, there was at that moment no Napoleonic party in France; and for that reason, perhaps, the comments of the journals should be regarded as reflecting all the more correctly the sentiments of the public.

Again, in 1848, when the Prince learned that it was proposed in the Assembly to retain the law of exile as regarding him alone, he wrote to the House of Delegates an appeal, which concluded as follows: —

"The same reasons which made me take up arms against the government of Louis Philippe would lead me, if my services were required, to devote myself to the defence of the Assembly, the result of universal suffrage. In the presence of a king elected by two hundred deputies, I might have recollected that I was heir to an empire founded on the consent of four millions of Frenchmen. In the presence of the national sovereignty, I can and I will claim no more than my rights as a French citizen; but these I will demand with that energy which an honest heart derives from the knowledge of never having done anything unworthy of its country."

These words would seem to be sufficiently assuring, but others were more so. In July of the same year, the Prince, then at London, received word that he had been elected to the National Assembly by the people of Corsica. It is evident that he was hoping for something better, and he therefore wrote to the President of the Assembly a letter which is a curious mixture of arrogance and humility. After declaring that the same reasons which had compelled him to refuse other demands imposed upon him the necessity of another sacrifice, he added: —

"Without renouncing the idea of the honor of being one day a representative of the people, I consider it to be my duty to wait before re-

> turning to the bosom of my country, till my presence in France may not in any way serve as a pretext for the enemies of the Republic. *I wish that my disinterestedness should prove the sincerity of my patriotism; I wish that those who charge me with ambition should be convinced of their error.*
>
> "Have the goodness, Monsieur le Président, to inform the Assembly of my resignation, and of my regret at not being able yet to participate in its labors, and of my ardent wishes for the happiness of the Republic."

The "disinterestedness" by which he wished to "prove the sincerity of his patriotism" appears in a strong light when we find that only a few days later he wrote to his friend, General Piat, at Paris, that, if he were again elected, he should accept. This declaration was duly accepted, and, consequently, in September he was chosen by the electors of four different departments. He determined to sit for the capital; and thus the "sacrifice" by which he wished to "prove the sincerity of his patriotism," while it deprived him of Corsica, gave him Paris.

On the 26th of September, the nephew of the Emperor took his seat in the Assembly in the midst of a scene of considerable agitation. He at once mounted the tribune and read a short but carefully-prepared speech. It was the first official act of his life, and was a most solemn profession of devotion to the Republic.

> "I feel it incumbent on me," said he, "to declare openly, on the first day I am allowed to sit in this hall, the real sentiments which animate, and have always animated me. After being proscribed during thirty-three years, I have at last recovered a country and the rights of citizenship. The Republic has conferred on me that happiness. *I offer it now my oath of gratitude and devotion, and the generous fellow-countrymen who sent me to this hall may rest certain that they will find me devoted to the double task which is common to us all, namely, to assure order and tranquillity, the first want of the country, and to develop the democratical institutions which the people have a right to claim.* During a long period I could only devote to my country the meditations of exile and captivity. To-day a new career opens to me. Admit me to your ranks, dear colleagues, with the sentiment of affectionate sympathy which animates me. *My conduct, you may be certain, shall ever be guided by a respectful devotion to law. It will prove, to the confusion of those who have attempted to slander me, that no man is more devoted than I am, I repeat, to the defence of order and the consolidation of the Republic.*"

This address was heard with every mark of approbation and satisfaction. It was almost universally accepted as a sufficient pledge of good faith. In the course of the ensuing discussions on the Constitution, it was only at rare intervals that a word indicative of suspicion or distrust was uttered; and even then assurance was restored by the unfailing tact of the Prince. In the course of the discussion of that portion of the Constitution which pertains to the Presidency, M. Thouret proposed the insertion of a proviso to the effect that no member of the families which had reigned over France should be elected President or Vice-President of the French Republic. The amendment was opposed by M. Lacaze and others, who urged that it proposed a law of proscription unworthy of a great people, and that the chief of the imperial family, against whom the amendment was particularly directed, had come forward, and from the tribune protested his devotion to the Republic. This opened the way to the Prince himself, who said "that he was too grateful to the nation for restoring him to his rights as a citizen to have any other ambition. It was not in his own name, but in the name of three hundred thousand electors, that he protested against the appellation of 'Pretender,' which was continually flung in his face."

"These words," says the report, "were followed by the greatest agitation." Finally, M. Thouret arose and said: "*In consequence of what has been said by Monsieur Louis Bonaparte, I withdraw the amendment.*"

While these discussions were going on, Socialist banquets were taking place in various parts of the realm, and the name of Louis Napoleon was beginning to be talked of in connection with the Presidency. This fact introduced into the Assembly an instantaneous element of discord. It was evident that there were some, at least, who were not altogether satisfied with the Prince's fair promises as to his future. M. Clement Thomas inveighed against him in the most violent terms. In the course of his speech he did not hesitate to charge him with covering the country with emissaries recommending his candidature to the peasantry. Finally, he startled the Assembly by declaring: "Louis Napoleon is not a candidate for the Presidency, *but for the Imperial Dignity.*" The instantaneous effect of this prophetic outburst was the suspension of the session, and a challenge from M. Pierre Bonaparte; the less immediate, but more important, result was another speech from the Prince, containing other "satisfactory assurances." In the mean time his candidacy for the position of President was declared, and it was necessary that he should attend to his interests with the people. Accordingly he lost no time in publishing an address to his fellow-citizens. He reiterated his doctrines concerning the sovereignty of the people, the rights of labor, and the relief of poverty. Then, for the purpose of allaying any doubts which might be entertained concerning himself and his future, he crowned all his assurances by using these words: —

> "I am not an ambitious man, who dreams at one time of the empire and of war, at another of the adoption of subversive theories. Educated in free countries, and in the school of misfortune, I shall always remain faithful to the duties which your suffrages and the will of the Assembly may impose upon me. If I am elected President, I shall not shrink from any danger or from any sacrifice to defend society which has been so audaciously attacked. *I shall devote myself wholly, without mental reservation, to the confirming of a Republic which has shown itself wise by its laws, honest in its intentions, great and powerful by its acts. I pledge my honor to leave to my successor at the end of four years the executive power strengthened, liberty intact, and a real progress accomplished.*"

Such were the assurances which Louis Napoleon gave to the French people. We have dwelt upon the subject thus at length for the purpose of showing not only that the nation had every means of making themselves familiar with his political doctrines, but also that he was pledged in the most formal and definite manner to a given line of policy. Early in life he perceived the spell with which the name of his uncle bound the mass of Frenchmen, who had forgotten the disasters of 1815, and he saw how that spell might be turned to his own advantage. He comprehended how, under a system of universal suffrage, the peasantry would be the governing body, and how, if secured in their prosperity, they would always be ready to adhere to a strong executive. He saw, also, that once in possession of an opportunity, with the sole right of the initiative in his hand, there would open before him every possibility of power. Finally, he had not hesitated to give every possible assurance, and to hold out every possible inducement, in order that the opportunity might be conferred upon him.

It is not our purpose to comment on the events which transferred Louis Napoleon from the president's chair to the imperial throne. That they were the natural outgrowth of Napoleon's political creed, in no way detracts from the perfidious villany of an act to which it would be difficult to find a parallel since the days of Louis XI. It should, however, be borne in mind, that the acceptance by the French nation of Louis Napoleon and his political creed was the practical acceptance of a personal in distinction from a constitutional government. No matter what the details of a plan of government may be, if it gives the sole power of initiative into the hand of a single man, then hedges the people about with executive restraints so that they can never know what the result of a negative vote would be ; it is not only a personal government, but a personal government of the worst form. It is of the worst form, because, in addition to all the evils which characterize the general species, it is a deception and a fraud. It is commonplace to say that an evil which is known to be such may be avoided or guarded against, while one that arrays itself in the garb of virtue carries with it a weapon which it is always difficult and sometimes impossible to avoid. It might be said that even political poisons are not very dangerous if they are properly labelled. Perhaps the worst feature of Napoleonism was the very fact, that, while it carried in its essential nature the ready means of violating any law with impunity, it professed that reverence for law as a fixed rule of action, both for governments and for individuals, without which there can be neither liberty nor order. It is probable that neither of the Napoleons would have hesitated to adopt in theory even that ideal devotion to legal authority which the genius of Plato has so beautifully illustrated in his account of the last conversations and death of Socrates ; and yet it would be easy to show that in all essential characteristics the Second Empire was a government of men and not of laws, of will and not of reason, of arbitrary and not of limited and legal power.

The favorite argument of the adherents of Napoleon has been, that, under a system of universal suffrage, it would be impossible for the Emperor to impose upon the nation a system of government that was repugnant to the majority of the people. It has often been asserted that, even admitting what is said about the servility of France in obeying the head of the State, she has done it all with her own free will. After a solemn appeal made to the whole population, she chose Napoleon as her ruler; and "she possesses in the *Corps Législatif* an organ through which her voice may be heard with less chance of being mistaken than even the public voice in the Parliament of England; for there the right of suffrage is restricted to a few, whereas in France it belongs to the whole adult male population." In a word, whenever it has been asserted that the power of Napoleon rested on the bayonet, the reply has been an appeal to the testimony of the ballot-box.

Now the strength of this argument, it will be universally admitted, can be understood only when the character of the ballot-box in France is known. Is the ballot-box, then, a truthful witness? Is the testimony which it gives a reality or a sham? These questions can be answered only by an inspection of such facts as come within reach. If it can be demonstrated that the people have absolute freedom of choice at the elections, the force of the argument will have to be admitted; if, on the contrary, it becomes manifest that the French executive exercises such an influence over the elections as to make a free choice impossible, the position will readily be conceded to have no strength whatever. For our own part, we have no hesitation in declaring it as our belief that the process of elections in France under the Second Empire was nothing less than a gigantic swindle. We believe it to have been a mere device with which to entrap a people into giving their assent to propositions which would not be assented to either by lawful representatives or by electors in the exercise of absolute freedom of choice. We believe it to have been a palpable cheat, which, but for the gravity of its results, would become a laughing-stock in proportion as the facts concerning it came to be known and understood. We believe, moreover, that we could bring before our readers an array of facts which would amply show that the result obtained by the ballot-box under the Second Empire no more represented the wishes of the people of France than it would if they had been marched up to the poll under military escort, and compelled at the point of the bayonet to vote in accordance with the dictates of the Emperor. A few of these facts, gathered from such works as have recently been published on the Second Empire, it is now our purpose to present.

It will aid us in our estimation of these facts, if we bear in mind one of the important characteristics of government in France as distinguished from government in England or America. In our own country we have of late heard something of executive interference in affairs of a local nature, and yet it must be admitted that the distinctive feature of that liberty of which we boast is entire freedom from such interference, in other words, is self-government. Our numerous municipal and local corporations manage a vast amount of public business with as little interference of the executive as would be possible if that executive did not exist. But the very reverse of this is the case in France. There is a passage in Forsyth's "History of Trial by Jury" which admirably describes the characteristic to which we refer.

> "The government there, under whatever form, whether that of Directory, Consulship, Empire, Restoration, Monarchy of the Barricades, Republic, or the Army, which is its present phase, has always been essentially despotic in its character. It has ruled by a system of paid *employés* in immediate dependence upon itself. The provincial functionaries, such as prefects and sub-prefects and mayors of arrondissements, are mere puppets, whose strings are pulled by the executive in Paris. In no country is the system of police surveillance and espionage more thoroughly understood or constantly practised. No public meetings are convened, as in England, to take into consideration the measures of government, and, if necessary, organize a peaceful opposition to them. The people are not, except in the solitary instance of dropping their individual votes into the ballot-box when the period of an election comes round, made parties to the management of their own interests. Hence there is, properly speaking, no public opinion in France, the influence of which can be felt by statesmen, and enable them to forecast the measures which will be best suited for the wants, and most in accordance with the real wishes, of the nation. Hence also results the startling paradox that the French, of all people in the world, are the most impatient of constitutional control, and the most servilely submissive to despotic power." — p. 143.

From the characteristics of the French government so well described, it will be seen that the executive has at hand the means of exerting an influence on the elections such as would be impossible in a country with a government like our own.

We shall now proceed to show the manner in which this influence was exerted, and the extent to which it made itself felt. We shall not speak of the *plébiscite* for the reason that its true character is well enough understood already. Only as an example of irony can that be called an election by which the people are merely asked to say *Yea* or *Nay* to something which has already been established by military force. We shall select examples of a nature calculated to afford absolute freedom of choice, examples which under any free government would present to the people a fair alternative between two or more proposals or between two or more candidates. Our examples will be the vote on the annexation of Nice and Savoy, and the vote at the general election in 1863.

By the treaty of the 24th of March, 1860, it was agreed between France and Italy that Savoy and Nice, "after the population had been consulted," should be ceded to France, and that Tuscany and the Romagna should also, after a similar "consultation," be annexed to Sardinia. By the terms of the treaty the annexation of these respective territories was made no less advantageous to Victor Emmanuel than to Napoleon. With Austria vindictive and powerful, and in a threatening strategical position; with the Pope outraged and desperate, and in control of an army which attached to itself a large share of the fanaticism of Europe,— there was no hope for struggling Italy but in a firmer alliance with France. In this fact alone is to be found an explanation of the willingness of the Sardinian government to part with so considerable a portion of its territory. Reasons enough existed why King and Emperor were equally anxious that the people should vote for annexation.

The fifth article of the Sardinian Constitution provides that "treaties which shall make any alteration in the territories of the State shall not take effect until after they have obtained the consent of the Chamber." In view of this provision, it was manifestly the duty of the government to submit the treaty to the Chamber for ratification before the popular vote should be taken, inasmuch as it was only by virtue of the treaty that the people would be entitled to vote at all. But there were dangers in this method of procedure which the Sardinian government did not fail to foresee. The project of annexation was not popular in Parliament, — indeed, it was likely to fail. Garibaldi did not hesitate to raise his voice, in season and out of season, against it; and, what was of the greatest importance, as showing the untrammelled desires of the people most affected, *every one of the delegates from Nice and Savoy to Parliament had been elected with the express understanding that they were to protest against such a transfer to another power.* In the short time that allowed of effort, thirteen thousand signatures were obtained to a protest against annexation. In view of these inconvenient facts, it was determined to postpone a ratification by Parliament until a popular vote, unanimous or nearly unanimous, had been secured. It seems to have been of no consequence that the treaty, according to which the vote was to be taken, really had no existence until it was ratified by the Chamber; it was determined to proceed as though it had been ratified, and then to use the advantage gained by this procedure to secure its ratification.

Accordingly, measures were instituted to secure such a popular vote as was desired. First of all, the Sardinian troops were withdrawn, and their places were filled by French garrisons. The opposition of the inhabitants of Nice to becoming French was indicated by the fact that the troops, on first entering the city, were received so roughly that they were obliged to resort to the use of the bayonet. The municipal junta sent a vote of thanks to those members of the English Parliament who had spoken in opposition to French annexation. The French Consul wrote to his government, that, if a French man-of-war did not come to Villa Franca, his own life and that of his family would not be secure. After the said ship arrived, the editor of the newly established French organ, *L'Avenir de Nice*, was besieged in his house, and obliged to rush down to Villa Franca for refuge.

Such were some of the indications of public sentiment at the time when the French garrisons were taking their places. It was evident that the people were not to be easily overawed.

But the efforts of the government had only just begun. Immediately after the occupation of the country by French troops, there was published an order transferring the civil government of the provinces to France. The French provisional governor, Lubonis, made haste to use the power thus placed in his hands for the advantage of his imperial master, and his example was speedily followed by Lachinal. Many of the mayors and local authorities were utterly opposed to the idea of French annexation, and without their co-operation it was felt that a vote of the people in favor of the measure could not be insured. Accordingly the following circular, filled out as might in each case be required, was issued: —

"THE GOVERNOR OF ANNECY.

"Considering that Monsieur ——, mayor of the commune of ——, seems not to have accepted favorably the consequences of the Treaty of the 24th of March last; considering that it is important, under the present circumstances, to have at the head of the administration of each commune men devoted to the new order of things;

"It is decreed, —

"1. Monsieur ——, present mayor of the commune of ——, is dismissed from his functions.

"2. The municipal counsellor —— is charged, until a new order, with the administration of said commune.

"3. The above will be transmitted to Messieurs —— and ——, for their guidance.

(Signed) "LACHINAL, *Governor-Regent.*

"Annecy, April, 1860."

In commenting upon this transfer of civil authority to the sole interests of the Emperor, the French journals gave evidence of abundant zeal. One of them, *Le Bon Sens*, remarked: —

"A very important thing for the success of the great votation to which Savoy is about to be called is to have at the head of each commune a mayor thoroughly devoted to the French annexation, for it is he who should give the impulse and preside at the electoral operations. A mayor who is devoted to Piedmont, or having a Swiss leaning, will be altogether out of place on such an occasion. We learn with pleasure that a great purgation has already taken place in the province of Chambery, of mayors, either hostile or suspected. We ask all sincere friends of France to keep a sharp look-out upon their communal administration. We do not doubt that the governor of the province of Annecy will be ready, if such is the case, to make use of the full powers with which he is clothed, to replace in each commune all the mayors who will not loyally co-operate in the great cause of our national regeneration."

The military and civil machinery thus in order, the authorities now devoted themselves to the more immediate work of manufacturing the requisite majority. First of all, the public was informed not only that it was prohibited to hold any meetings to discuss the affairs of Nice, but also that no canvassing on the part of those opposed to French annexation would be permitted, and that no placards or circulars would be allowed to be issued by the Italian party. At the same time, documents of various kinds were issued by the officers in authority, appealing to their subordinates and to the people. The provisional governor, Lubonis, issued a proclamation, of which the following is the most important portion: —

"CITIZENS, — All uncertainty with reference to our future has ceased. By the Treaty of the 24th of March, the gallant King Victor Emmanuel has ceded to France Savoy and the arrondissement of Nice. The most powerful motives of political necessity, the exigencies of the future of Italy, the sentiment of gratitude toward his powerful ally, and, finally, the exceptional circumstances of our country, have decided, although with regret, our beloved sovereign to separate the provinces which have been for so many centuries intimately bound up with his dynasty. But the fate of a people does not rest exclusively with the desire of princes. Therefore the magnanimous Emperor Napoleon the Third and the loyal Victor Emmanuel have desired that this Treaty of Cession should be strengthened by the popular adhesion. . . . . All opposition should fall powerless before the interests of the country and the sentiment of duty. Besides, it will find an insurmountable obstacle in the wishes themselves of Victor Emmanuel. . . . . Fellow-citizens, the mission which the King has confided to me is transitory but important. In order to fulfil my task at this extraordinary juncture, I count upon the support of your co-operation, upon your respect for law, and upon the high degree of civilization to which you have raised yourselves. Hasten, therefore, to confirm by your suffrages the reunion of your country to France. In making ourselves the echo of the intentions of the King, let us unfurl the banner of that noble and great nation which has always excited our lively sympathies. Let us rally round the throne of the glorious Emperor Napoleon the Third. Let us surround it with the same fidelity, so especial to our country, which we have always preserved to this day to Victor Emmanuel. As for this august Prince, let us retain among us the worship of bygone memories, and let us raise earnest prayers for his new and brilliant destiny. To the great Napoleon the Third, whose powerful and firm will is to open a new era of prosperity for our country, our inflexible fidelity, as well as our respectful devotion, will now commence.

"Vive la France!

"Vive L'Empereur Napoleon III.!

"*Le Gouverneur Provisionnel*, LUBONIS."

A proclamation similar to this of Lubonis was issued by Malaussena, Mayor of Nice; and finally, as if to crown all, the Bishop came forward in the same interest, appealing to all loyal members of the Church to vote for annexation. Nor, indeed, was this all. The French Committee sent to all the officials a circular bearing the government seal, and appealing for support to all the authorities in town and country. Referring to the advantages to be derived from annexation, the Committee used these words: —

"We are convinced that the imperial government will recompense the people for the unanimity of their vote, and will proportion the reward according to the good disposition manifested by them. Without enumerating here the immense and incontestable advantages of every kind which our country would derive from its annexation to the great French Empire, we consider it our duty to address ourselves to all our friends and correspondents, not only to stimulate their zeal in favor of the common cause, and to engage them to use all their influence in order to insure the success of the vote in the French interest, but also that they may carefully watch and point out to us the steps that have been taken in a contrary interest by those in opposition, in order that the necessary measures may be taken to neutralize the influences which are hostile to the interests of the country. Will you have the goodness, M. ——, to acknowledge the receipt of this, and to make known to us the spirit of your population, and that of the local authorities?"

The "necessary measures" to which the committee alluded were amply provided for. A sum of money had been placed at their disposal by the French government; and of this it is stated on good authority that 3,000,000 francs were used in the direct work of bribery, exclusive of the expenses of the government on the day of voting. Drinking booths and *cafés* were erected especially for the purpose by the officials, and a tri-colored cockade or a voting ticket with "*oui*" upon it entitled the bearer to the gratuitous enjoyment of all their privileges.

Another device which appealed to the religious zeal of the people was that of blessing the standards of the imperial party. This official blessing of the French flags was calculated to work an immense effect upon the ignorant and somewhat superstitious population. The authorization ran in this way: —

> "MM. les Commissaires will distribute the flags which MM. les Curés are authorized, and indeed invited, to bless. These standards will be in this case presented by the Commune, at the head of the inhabitants, to MM. les Curés, who will receive them at the entry of the church. Finally, you will understand the importance which I attach to this last recommendation. You will take care that official proclamations, manifestoes, and notices are preserved intact. All appeals to the passions — any notice whatever affixed without the required authorization — will be immediately torn down."

Side by side with this was posted the following official manifesto: —

> "The Mayor of Bonneville notifies that the Communal Council will assist at the benediction of the flags which the Imperial Government has presented to the Commune; that this religious ceremony will take place on Sunday, the 22nd, at seven o'clock, A. M.; that the *cortège* will leave the Hotel de Ville to go to the church. All electors are invited to this ceremony, which will immediately precede the opening of the voting-urns. In the morning the Hotel de Ville will be decorated with the French flags and the national colors. All the inhabitants are invited to decorate their houses with flags of the same colors.
>
> "The Imperial Government has made its *début* by a signal benefit in giving us the customs *zone*, which has hitherto been refused. It assures to us the prosperity of the country. Its generosity will not end here. French engineers have explored the province, have begun to study the banks of the rivers, the state of the roads, and the public works most useful to the country. The numerous mines of Faucigny will be worked, the condition of our *collège* will be improved. Let us

show our gratitude to the Emperor. Let us give a free course to our sympathies, so long restrained, and prove by a compact and unanimous vote that we are as much French as our fathers were.

"Vive l'Empereur!

"Vive la France!

(Signed) "DUFOUR, *Mayor.*"

As the day of voting approached, the Central Committee issued the following circular:—

"SIR,—The Central Annexationist Committee, upon whose proceedings no restrictions were placed, has named you member of the Special Committee for the parish of ——. You will have the goodness, sir, to concert with your colleagues, Messrs. ——, measures which may unite and bring to the poll on Sunday next the greatest possible number of electors, and take any steps which appear expedient, *in order that the vote of the population may be at the same time a striking manifestation of its sentiments towards France and towards the Emperor.*"

In addition to all the other pressure, the local police authorities openly declared that lists of the *proscrits* would be made out, and that those who abstained from voting would be punished as soon as they became French subjects. The same authorities received orders from head-quarters at Nice to collect the peasants on the day of voting and march them into town, with drums beating, and French flags floating at their head. An Englishman, who was at Nice at the time of the election, thus describes what he saw:—

"The first object which met my view, as I entered Nice on the morning of the 15th, was a procession of country people marching into town. At the head of the procession was a fat *curé*, arm-in-arm with the village syndic and another functionary; behind were thirty or forty rustics, some of them extremely drunk, although early in the morning, carrying flags, beating drums, and cheering in a maudlin, irregular manner. The streets were crowded with persons wearing tri-colored cockades and carrying the *oui* voting-ticket in their hats. French soldiers, of whom there was a plentiful sprinkling, mingled freely with the crowd, although one battalion had been marched to Villa Franca, to give the authorities an opportunity of saying that, in order not to influence the vote, part of the French troops had left the town. The urns were placed in the National College, and thither I repaired to watch the process of voting. The people crowded in and voted with scarcely a challenge; lists of those registered were posted up outside; but at first the votes were given too rapidly to enable the scrutineers to exercise any check. The *oui* ticket was distributed freely in the streets; men stood at the corners as if they were advertising quack medicines, and gave you any number of "*ouis*," but I endeavored both in the shops and in the streets to procure a "*non*" without success. One boor I saw just about to vote two tickets. I asked him if such was his intention, and he naively answered, 'Why not?' 'O,' I said, 'it won't be fair; give me one,' — which he most good-naturedly did at once. Another man to whom I spoke told me that he was strongly opposed to becoming French, — that he had two sons in the Sardinian service, one in the army and the other in the navy, that he himself was a poor boatman, and that he had voted *oui* against his inclination, because the police had told him that if he did not he would be imprisoned, — that the King whom he loved wanted it, — that England and all the powers wanted it, — and that as for his voting in the opposite sense he would simply get himself into a scrape and do no good. But he said promptly, 'I have neither cheered, nor will I wear a cockade.' As all the scrutineers were the nominees of Pietri (the French Agent of Police), and as they held the keys of the urns, there was, of course, no security against any number of *oui* tickets being put into them in private."

The same witness wrote subsequently from Bonneville, where he happened to be on the day of the voting in Savoy: —

"On the morning of the 22d I found myself once more at Bonneville in Faucigny; but a considerable change had taken place in the aspect of affairs since I had left it less than a month before. From every house, and almost every window of every house, waved French flags. The hotel, which had formerly been the head-quarters of the anti-French party, and where I had dined with the members of the Committee, was tricked out in all the splendors of red, white, and blue. The bookseller's shop, where I had heard sentiments strongly hostile to France, now displayed a gigantic banner; but, more remarkable than all, the house of the candidate who had contested Bonneville three weeks before on the Swiss interest, as opposed to the French, was now decorated with French flags. My old friends were nowhere to be found; the Committee had evaporated, and throughout the town where party feeling had recently run so high, and anti-French annexation was rampant and openly expressed, there was not a syllable to be heard against it. A little shopkeeper, whom I knew formerly as a furious anti-Frenchman, was now with difficulty dug out of his back-shop, and owned to having just voted in favor of France as an act of self-preservation. 'What could I do?' said he; 'the concierge de la ville brought me two tickets this morning, with a message from the intendant that if I did n't vote them it would be the worse for me. He also asked where my French flag was, and advised me, if I valued my liberty, to show one without delay. There is the flag, and here is the other voting-ticket; a similar one I have just voted, but this I present to you.'

'BULLETIN DE VOTATION.
La Savoie veut-elle être réunie à la France?
Oui et Zone.'

"My informant went on to tell me that every voter had received his ticket from the police authorities, and he smiled when I asked him where I could procure a *non* ticket. 'No printing-house here would venture to print one,' he said; 'you would have to get them from Geneva.' The addition of the word '*Zone*' struck me as curious, and I asked the object of its insertion in the voting-ticket. The device was ingenious. The authorities, fearing that though the people had not the courage to vote *non* they might be bold enough to abstain from voting at all, gave it to be understood that such a course would not prevent their being annexed, but that they would thereby lose their commercial zone or free frontier with Switzerland, upon which their future prosperity would depend; in other words, by voting they would be annexed and get their zone, — by abstaining they would be equally annexed, but ruined. By a recent French circular I perceive it stated that the desire of the Emperor to carry out the conditions of neutrality, as laid down in the ninety-second article of the Treaty, has induced him to grant the Zone. It was originally invented as an election 'dodge,' and served its purpose admirably, being used either as a bribe or as a threat."

Such were the means by which the hostility of Nice and Savoy to French annexation was converted into an almost unanimous declaration in its favor. Under any circumstances whatever such a spectacle of organized trickery would be a painful thing to contemplate. It is possible to imagine a situation in which the ruler of the nation, for political reasons, might submit a question that had already been decided to the ratification of his people with no other evil result than that which might chance to be inflicted upon the people themselves. But in the case of Savoy and Nice there was an element in the transaction which made it an outrage upon the liberal sentiment of Europe and of the world. We refer to the repeated declarations that the votation would be perfectly *free*. The first article of the treaty declared that "it is understood between their Majesties that this re-union shall be effected without any constraint upon the will of the people, and that the government of the King of Sardinia and that of the Emperor of the French will agree as soon as possible upon the best means of arriving at and of confirming the manifestation of this will." Not long after the Treaty was formed, a deputation from Nice waited upon Victor Emmanuel, when he assured them "that he had stipulated as a condition of this cession a votation free from any external pressure, and promised that, if a military occupation took place, or if the condition was violated in any manner, he would protest"; and again, in the proclamation by which he released his subjects in Nice and Savoy from their allegiance, he gave them this assurance: "Under no circumstances will this great change in your destiny be imposed upon you; it must be the result of your free consent. Such is my firm determination; such also is the intention of the Emperor of the French." Finally, in the Chamber of Deputies, when the vigorous protest of Garibaldi seemed likely to put an end to the whole transaction, confidence was restored only when Count Cavour assured the deputies that "the vote should be absolutely free" (pienamente libero). And yet, in view of all these most solemn assurances, what have we seen? Italian troops removed and French troops put in their places; all the important civil offices filled with Frenchmen, or men committed to the support of the French cause; official circulars and placards advocating annexation scattered everywhere, while no publication of an opposing sentiment was anywhere allowed; ballot-boxes in exclusive control of French officers; ballots in favor of annexation distributed everywhere by the police, while ballots opposed to annexation could be procured only by sending to Geneva; priests blessing the flags presented by the Emperor, and appealing to the consciences of their people in behalf of France; money, as well as general free living and drinking, furnished by the imperial agents; and, finally, the people, with French music sounding and French banners flying, marched up *en masse* to the ballot-box, with priest and mayor arm-in-arm at their head.

Such was the boasted *free vote* with the sanction and help of which Nice and Savoy were annexed to France.

We come now to the consideration of our second example.

Under the *régime* of the Second Empire there was no way of imposing any restraint upon the will of the Emperor, excepting by means of the *Corps Legislatif*. As the senators and the counsellors of State were appointed by the crown, they could in no way be regarded as in any sense representatives of the people, — they were rather representatives of the Emperor himself. The possibility of frustrating the imperial will, that is to say, the possibility of preventing a pure absolutism, depended solely, therefore, upon the character of the representative body; the character of that body depended upon the political intelligence of the people and the freedom of the election. If it can be shown that the elections were not substantially free, it will be unnecessary to ask whether the masses of the people do or do not possess an unusual amount of political intelligence. If there is no opportunity on the part of the people for a free exercise of the political intelligence they may possess, it is not too much to say that, for political purposes, such intelligence is of no consequence whatever. We think it will not be difficult to convince our readers that the general elections in France were no more free than was the election in Nice and Savoy; no question, therefore, concerning the intelligence of the electors is relevant, excepting, perhaps, so far as is necessary to show how the farce of the elections was continuously possible.

It is difficult for us in America to comprehend the ignorance of a large portion of the rural population. To get an adequate notion of it, one should read the "Madame Bovary" of M. Flaubert. On the same subject there is ample food for meditation in the small work of M. Taine, the title of which is at the head of this article. We must be content to make a few extracts.

> "En France, sur cent personnes du sexe masculin, il y a trente-neuf illettrées, c'est à dire ne sachant pas lire ou ne sachant pas écrire. Comme ces illettrées appartiennent presque tous à la population rurale, cela fait dans cette population trente-neuf illettrées sur soixante-dix. Ainsi, l'on ne se trompe pas de beaucoup si l'on estime à sept sur quatorze, à la moitié du total, le nombre des électeurs ruraux

qui n'ont pas les premiers rudiments de l' instruction la plus élémentaire. Voila déjà un indice d'après lequel on peut apprécier leur intelligence politique. Il m'est souvent arrivé de causer avec eux sur les affaires publiques. À quinze lieues de Paris, tel, cultivateur et petit propriétaire, ne savait pas ce que c'est le budget; quand je lui disais que l'argent versé chez le percepteur entre dans une caisse à Paris pour payer l'armée, les juges, et le reste, qu'on tient registre de tous les recettes et dépenses, il ouvrait de grands yeux; il avait l'air de faire une découverte. Après les premiers emprunts du second Empire, un fermier normand disait à un de mes amis, orléaniste: 'Ce n'est pas votre *gueux de Louis-Philippe* qui nous aurait donné de la rente à soixante-sept francs.' Après le coup-d'État, des cultivateurs me répétaient dans les Ardennes: '*Louis-Napoléon est très-riche, c'est lui qui va payer le gouvernement; il n'y aura plus d'impôts.*' Je viens de lire la correspondance de vingt-cinq à trente préfets de 1814 à 1830; l'ignorance et la crédulité des populations rurales sont étonnantes. Au moment de l'expédition d'Espagne, des maires viennent demander au préfet du Loiret s'il est vrai que les alliés vont traverser le pays pour aller en Espagne et laisser en France une nouvelle armée d'occupation. *Pendant plusieurs années, dans plusieurs départements, au mois de mars, on croit fermement que Napoléon arrive à Brest avec quatre-cent-mille Américains, ou à Toulon avec quatre-cent-mille Turcs.*" — (p. 16 *et seq.*)

In regard to the intelligence of the people concerning the matters on which they are voting, the same author relates the following: —

"Là-dessus, dans les deux ou trois élections qui ont précédé la chute du second Empire, nous avons eu par les enquêtes des révélations étranges. Un témoin disait: 'J'avais les deux billets dans ma poche; mais, ma foi! bonnet blanc, blanc bonnet, c'était pour moi la même chose, et j'ai pris le premier venu.' Un autre, à peu de distance de Paris, répondait à un de mes amis: 'Je ne connaissais ni l'un ni l'autre; alors, des deux, j'ai pris le bulletin qui m'allait le mieux à l'œil.' C'était la forme des lettres qui l'avait décidé. *Un troisième veut savoir quel est le bon bulletin; on le lui dit, il va le mettre dans l'urne; le lendemain, on lui demande ce qu'il a fait de l'autre.* 'OH! JE L'AI DONNÉ À PIERRE, QUI EST UN MAUVAIS GARS; IL A VOTÉ AVEC. C'EST BIEN FAIT, IL LE MÉRITE.'" — (p. 33.)

If it is difficult for an American to understand the political ignorance of the masses of the French peasantry, it is scarcely less so for him to comprehend the extreme centralization of the government. M. Delord has compared it with a polyp having a countless number of tentacles: —

> "The administrative tentacle," says he, "begins with the prefect and ends with the cantonnier; the judicial tentacle extends from the attorney-general and the chief-justice to the village constable and the justice of the peace; the financial tentacle reaches from the secretary of the treasury to the collector of fines. Without mentioning a host of other similitudes, there are without number licenses, customs, imposts, commissioners of roads and bridges, with which the polyp enlaces the candidate, strangles him, and suffocates him; centralization is also an intelligent machine, complicated, and marvellously obedient to the hand that directs it. There is not a single function pertaining to government, even most remotely, which cannot be included within its gearing: notaries, attorneys, bailiffs, clerks, are all embraced. Centralization, if it cannot obtain from all these a formal and hearty support, imposes upon them at least neutrality."

In other words, if, in our own country, the governors of the States, the judges of all the courts, the sheriffs, the police officers, the county commissioners, the mayors of the cities, the appraisers, the collectors of taxes and tolls, the officers and conductors of railroads, were all appointed by the government at Washington, and were responsible to that government alone, we should have in form, if not in spirit, something like the centralization which prevailed in France. Nor, indeed, was this all. M. Delord assures his readers that the police officers, as the more immediate agents of the executive, were specially "charged to stimulate the zeal of the local authorities. They were not content to enter into the house of the peasant; they penetrated into the deliberative assembly of the municipal council, and openly reproached its members if their zeal appeared to decline. The commissioner of police acted upon the people by a kind of terror. An elector of the opposition was traversing a village on the Gironde between two gendarmes, and the commissioner of police cried out: 'There is a partisan of M. Decazes; that is the way we treat them.'"

The illustrations which we are about to present are all furnished by the general election in 1863. We have chosen this, not because it differed in any essential feature from the other contests of a kindred nature which took place under the Second

Empire, but for the reason that the campaign was conducted on the part of the opposition with more spirit than any other, and that consequently it reveals the electoral system of the country in the strongest and clearest light. Our facts are chiefly gathered from the third volume of Delord's *Histoire du Second Empire*, and from *La Lutte Électorale en* 1863, par M. Jules Ferry.

As usual, the imperial manifesto which announced the coming election declared that it would be *free.* The prefects were called upon to address themselves only to the reason of the electors. In addressing these functionaries, M. De Persigny said: "Designate publicly, as in the preceding elections, the candidates which inspire the government with the most confidence. Let the people know who are the friends and who the enemies of the Empire; and let them have full liberty to decide as they choose, but with a full understanding of the cause."

For a government which itself presents and supports a list of candidates, such an announcement would not seem to be unnatural or illogical; but the objectionable features of the method become glaringly apparent when we learn that the government not only gave to the people what it called "a full understanding of the cause," but also that it threatened to withdraw all patronage from those who did not accept its conclusions. It was officially announced by Persigny himself that his Majesty "could not allow about the electors any but men devoted actively, and without mental reservation, to the imperial dynasty." * Thus in the very beginning of the campaign every official was publicly informed that his continuance in office depended upon his devotion to the interests of the official candidates. In view of these announcements, and in view of that system of centralization which brought everything within imperial reach, the people did not fail to see that it was of the greatest importance to have candidates nominated by the government who should be the least unacceptable to themselves. Accordingly, in some instances petitions were sent to the government, asking for the nomination of certain persons, a method of procedure which in itself was a complete abdication of all the principles of a free election. As early as August, 1862, *L'Echo de Vesoul* contained a petition, in which the electors of that district prayed the Minister of the Interior to have the goodness to designate for their suffrages the candidature of M. De la Valette. In any country where elections are free, the natural method, of course, would have been for the electors to have nominated their favorite, and then to have elected him; but in France the people know well that if the administration should not approve of their choice, they would have to enter into a struggle which promised nothing but defeat.

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* "Il ne peut appuyer auprès des électeurs que des hommes dévoués sans réserve et sans arrière-pensée à la dynastie impériale et à nos institutions."

At the same time, when the candidates were announced by the prefects of the various departments, it was declared that no public discussion of the merits of the respective candidates would be allowed. The following extract from a discourse addressed to the electors of the *Haute-Loire* by the prefect of that department will serve as an example of the way in which all free choice of candidates and all discussion of their merits were prevented: —

> "Under the last government, the electors, to supply the place of a general direction, which then they did not have, contrived preliminary meetings, where the candidates declared their principles and submitted themselves to the choice of the people for nomination or rejection. The administration to-day fills, so to speak, the office of the preliminary meetings. We, the administrators, disinterested in the question, and representing only your collective interests, examine, appreciate, and judge of the candidates who are presented. After a full investigation (*mûr examen*), with the sanction of the government, we present to you the one who unites in himself the most sympathies, not as the result of our will, and still less of a caprice, but as the proper expression of your suffrages, and the result of your sympathies."

Numerous citations like this might be given to show how completely the official candidates were the representatives of the Emperor. In all cases the Emperor chose the prefect, and the prefect, after conferring with the Emperor, nominated the candidate. To call the deputies who reached the *Corps Législatif* by such means representatives of the people is sheer absurdity. It is not so difficult to understand how Napoleon was willing to resort to such a system of duplicity, as it is to comprehend how an enlightened nation failed to be shocked and outraged by its application.

No sooner were the candidates in the field than the contest began. The overwhelming odds in favor of the official candidates now began to be seen. With free speech and a free press, the candidates of the people could at least have made a vigorous struggle; but with both of these agents taken away they are literally bound and gagged. Writing of this very election, M. Delord assures us that "the journals of the opposition had been killed almost everywhere, and there remained (in each prefecture) only such as were sustained by the government by means of secret subsidies and the judicial announcements." * As has been already shown, the general government at the very outset had prohibited meetings for the discussion of political topics. There remained, therefore, for the non-official candidates, none of the ordinary methods of publishing their views. They had sole recourse to the mails and to placards; and even these methods were constantly interfered with. The prefect, if he deemed it necessary, did not shrink from interfering with the ordinary functions of the post in order to rob it of any hostile material. Just before the election, the suburbs of Grenoble, containing twenty-five thousand inhabitants, were deprived of all postal communication during twenty-four hours, for the sole purpose of allowing a vigorous and concerted attack to be made upon the opposition candidate at a moment when it was impossible for him to defend himself. Scarcely was an opposition candidate an-

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* "The *Événement* appeared yesterday before the court of assize of the Seine presided over by M. Perrot de Chezelles. The *Événement* was suspended. The responsible editor was condemned to nine months' imprisonment, and 3,000 francs fine. The author of the article, M. F. Victor Hugo, was condemned to 2,000 francs fine, and nine months' imprisonment. The *Événement* will have four of its editors in prison. Where will the government stop in this path? It will not stop, — it cannot. The *Réforme* has been condemned; the *Peuple* has been condemned; the *Vote Universel* has been condemned; the *Presse* has been condemned; the *Siècle* has been condemned; the *République* has been condemned; the *Assemblée National* only escaped condemnation by submission. And then came the turn of the *National*, of the *Ordre*, of the *Gazette de France*, of the *Journal des Débats*, and of the *Union*." Quoted from the *Presse* by Forsyth, "History of Trial by Jury," p. 361.

nounced when the attacks of the official organs began. If he happened to reside in the district which he hoped to represent, both he and his family were placed under a surveillance which made their sojourn sometimes impossible. They were attacked with a bitter ferocity by the official journals of the locality. The candidate naturally felt the need of replying, and accordingly sought for a printer. If there happened to be two presses in the place, one of them was generally under the patronage of the prefect, and the other under that of the bishop. If by a rare chance one was found who claimed to be independent of these functionaries, he was still obliged to acknowledge his subordination to the laws for the control of the press, — laws by which his office could be closed at any moment. But suppose, as it sometimes happened, that the candidate, by dint of management and the free use of money, surmounted all these obstacles. Three methods of distributing his documents were open to him. They could be committed to the mails; they could be distributed by hand in the street and at the places of resort; they could be put up as placards. Suppose that the candidate intrusts his fortunes to the post-office. One of two things was likely to happen. Either the mass of his circulars found their way into the sewers, or, if they reached their destination, each one was accompanied with an official rejoinder.* But suppose the candidate determines to rely chiefly or solely upon placards. In every French village the bill-poster is an official who depends upon the authorities for his position; it therefore requires more than ordinary courage in an *afficheur* to lead him to post the *affiche* of the independent candidate by the side of that of his opponent. Both in 1859 and 1863 it happened that candidates were reduced to the actual necessity of arming themselves with pincers and paste-pot, and putting up their own placards.

M. Clapier, a candidate in les Bouches-du-Rhone, with some faithful adherents, spent the greater part of a night in flitting along the walls and dark corners of the city, and sticking up posters with their own hands. Imagine his estimate of the *freedom* of elections in France, when the next morning he found his bills covered with those of the Emperor. One candidate, M. Aristide Dumont, of Noyen, more bold than the others, ventured to complain to the authorities when he found that his posters were destroyed as fast as he could put them up. His zeal subsided, however, when he was informed that, although there was indeed a law against the mutilation of posters, all complaints for violation of that law must be made by the administration. Thus it turned out that whether a man could be punished for destroying a placard depended upon the action of an imperial officer, and whether that officer would act depended upon the nature of the placard destroyed.

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* That this is no exaggeration will appear from the following: "On n'entendait parler de tous côtés dans les temps d'élection que de bulletins en retard, de circulaires égarées, voire, même d'écrits électoraux jetés dans les égouts. Les paquets arrivaient quelquefois, mais, par un prodige singulier, entre chaque circulaire du candidat indépendent s'était glissée une circulaire du candidat officiel, et entre chaque bulletin libre une bulletin estampillé." — Delord, III. 407.

But there was one other method open to the candidate, namely, the distribution of documents at the hands of his personal friends. This service, however, required something of the spirit of a hero and a martyr. The distributers were constantly assailed by the jeers and the threats, and sometimes even by the blows, of the officials. Commissioners, mayors, gendarmes, *gardes champêtres*, and *gardes des cantonnières* beset them at all points, and any considerable success was impossible. There are a number of authenticated instances where persons caught in this service were seized, and deprived of their liberty until after the election.

While these difficulties were besetting the non-official candidates, the candidates of the government held undisturbed possession of the field. Their posters everywhere decorated the walls of buildings, the trunks of trees, and the sign-posts at the cross-roads. The mails did for them faithful service, and the telegraph, which could never with safety be used by the opposition, was their ready and faithful messenger. The candidates themselves travelled from place to place in state, supported and protected by a retinue of officials. These latter never hesitated to take any advantage of their peculiar positions in order to accomplish their purposes. Even the inspectors of schools required of teachers not simply a passive but an active support of the official candidates.* So much for what may be called the machinery of the campaign; let us now look at the means by which it was operated.

Under the system of centralization of which we have already spoken, all the public authority of a given district was under the control and direction of the prefect. M. Delord assures us that even the justice of the peace was his docile servant. If an elector originated or circulated any report injurious to the official candidate, the commissioner of police was directed to cause his arrest, and he was at once imprisoned. In such cases it was not even claimed that false charges were made; it was enough that they were injurious, — *une propagande gênante* being the usual expression. In vain did the non-official candidate offer bail for the good conduct and the appearance at trial of the accused; the prisoner was held until after the election, when he was generally dismissed without trial. In one instance, where the accused was no less a person than the municipal counsellor of Sainte-Foix, the prisoner was released on satisfactory assurance that he would leave the commune and would not return until after the result of the election should have been declared.

The mayors of the cities were no less zealous than the justices of the peace. The manner in which they were expected to perform their duties may be judged of by the mandate of the prefect of La Manche, which is given merely as a sample of its kind. "Gentlemen," said he to the mayors of his province, "if you do not expect to vote for the official candidate, resign your scarf the day before the election, in order that it may not be taken away from you the day after." Perhaps the threat was hardly needed; at any rate there was no hesitation on the part of the mayors in making themselves the most active agents of the official candidates. The mayor of Ouistreham appealed to his people in these terms: "Inhabitants of Ouistreham, agents more or less paid boast of being able to make you vote against the candidate of the government. I know your spirit too well to believe that you will allow yourselves to be influenced by any means whatever. Here you have only one sincere friend, and that is I! And when I say to you: Vote for M. Bertrand, it is because this vote is in your dearest interests!!!" The mayor of Jonvelle warned the electors of his precinct that the opposition candidate, M. D'Andelarre was "the protector of the party of the nobility and the clergy; the party which wished to see again such times as those seen when our grandfathers were obliged in turn to beat the water and impose silence upon the frogs in order that the sleep of this or that marquis, or this or that prior, might not be disturbed." "Electors, know that in voting for M. Galmiche you vote for yourselves, for your honor, for progress, for the Emperor who loves you; love him also. Vive la France régénérée! Vive l'Empereur!" The mayor of Kermaria even mounted the pulpit on Sunday, in the place of the *curé*, and preached in favor of the official candidate. Illustrations might be multiplied, but it is perhaps unnecessary. In all parts of France, as might be shown by examples in abundance, the mayors brought the full weight of their official position to bear upon the result. The full significance of this interference with the free expression of the will of the people will be understood only as it is remembered that the mayors in France were not elected by the people, but were appointed by the Emperor. Moreover, it must be kept in mind that the authority of the mayor over the voters of his district was in many respects similar to the authority of a custom-house officer in the United States over his subordinates. Both are officers of the general government, and both have the power to make the interests of their official inferiors depend upon the nature of their votes. If this comparison should seem to any one to be unjust to the French, we have only, in reply to any accusation of such a nature, to refer to the array of threats and promises given in the pages of MM. Ferry and Delord.

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* Numerous examples in support of this statement might be given. The Inspector of the Académie de la Côte d'Or wrote to the teachers: "Combattre les candidatures administratives, c'est combattre l'Empereur lui-même. En adopter et en patronier d'autres, c'est également servir et recruiter contre lui. *Ne pas les combattre, mais aussi ne pas les soutenir, c'est l'abandonner, c'est rester l'arme au pied dans la bataille. Votre indifférence me causerait de la surprise et du regret, votre hostilité serait à mes yeux une lâcheté coupable et sans excuse.*" The Inspector of the Académie des Vosges wrote to the teachers under his supervision in a similar strain. *Vide* Delord, II. p. 409.

But the work of the mayors did not stop with threats and promises. They betook themselves everywhere to the polling-booths, in order to exercise an active *surveillance* over the work of voting. To a foreigner who simply reads the law it would seem that ample provision had been made for the protection of the voter. It was specifically required that the election should be by *secret* ballot,— a fact which would seem to be sufficient guaranty that the elector would be insured in the privilege of voting as he wished; and yet it was found to be not difficult to evade the provisions of the statute. It was necessary that those who had promised and threatened should have some means of knowing positively whether a given elector would be entitled to the promised reward, or whether, on the contrary, he would be deserving of the threatened punishment. To accomplish this end, various devices were resorted to, any one of which would raise an irresistible outcry of indignation in any free country. A common method was to post along the approach to the ballot-box a double line of military and civil officers, each one of whom was commissioned to examine the ballot, and in case of need to exchange the non-official for the official.* In other places the official ballots were printed upon paper which was easily recognized.† The law that the voting should be secret was interpreted to mean that the ballot should not be opened or scrutinized by those in official charge of the election; accordingly there was no protection for the elector against the interference of the mayor and those other dignitaries who had no such official connection. Even when those in charge of the boxes performed their duty faithfully, of what consequence was it after the elector had already been robbed of his non-official vote, and forced to appear before them with the government ballot only? There is the best of authority for affirming that in many instances the mayors not only seized and destroyed non-official ballots, but that they also declared that whatever the number of votes procured by the candidate of the opposition, the government candidate would be elected.* It is further to be said that the law requires the ballot-boxes to be sealed, a requirement which it would not seem very difficult to fulfil; and yet we are gravely assured that the means for carrying out this law were in many of the communes so incomplete that the votes were actually cast sometimes into a hat, sometimes into a soup or salad bowl, and sometimes even into the mayor's pocket, held open for that purpose by the mayor himself and by an assistant.†

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* "Les électeurs de la campagne, pour se rendre dans la salle du scrutin, sont obligés de traverser une sorte de couloir où secrétaire de la mairie, officiers de pompiers, brigadiers de gendarmerie, fourriers de ville, gardes champêtres, cantonniers, sont en permanence et demandent à chaque électeur son bulletin, qu'ils remplacent par lè bulletin du candidat officiel si celui qu'ils ont porte le nom du candidat de l'opposition." — Delord, III. 416.

† "Quelques-uns auraient bien envie de voter pour l'opposition en s'en rapportant au secret du vote guaranti par la loi, mais le candidat du gouvernement a écrit son nom sur du papier transparent, et pour plus de précaution, le maire a envoyé aux électeurs dont il se méfie le bulletin officiel piqué ou collé sur leur carte d'électeur." — Delord, III. 416.

It would be easy to multiply examples similar to those which we have already given, but out of consideration for the patience of our readers we desist. We should not, indeed, have prolonged the subject so far as we have already done but for the necessity of bringing forward actual proofs of the pressure which was so constantly and so successfully used. Nothing but a presentation of facts is a sufficient answer to the arguments of those who found their approval of Napoleon III. on the belief that from first to last he enjoyed the unswerving support of his people. It is our unalterable belief that a support gained in the manner which we have attempted to show is far worse for a nation than any open and honest opposition to its government can be. It is making use of popular institutions as a mask behind which to hide a system of oppression and tyranny; it is prostituting the cause of freedom, and making it subordinate to the ends of despotism. If a people are to be made political slaves, let them at least be spared the mockery of sham liberty, lest they bring all liberty into discredit, and all free institutions into contempt. It may be that an imperial government is the best government for France (though we do not believe that such is the case) ; it is certain that so long as moral principles apply to the welfare of nations as they do to the welfare of men, any government founded and sustained by such a system of *duperie*, to use the forcible word of Taine, as was that of Napoleon III. will end in weakness and ruin. What Shelley said of men as a possibility may be said of governments as a certainty; and for the reason that with governments the end of all things is in this life : —

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* "Un grand nombre de maires ouvrent les bulletins et déchirent ceux de l'opposition, affirmant, d'ailleurs, que quelque soit le nombre de suffrages obtenu par le candidat de l'opposition, le candidat du gouvernement sera élu, et, comme pour donner plus de poids à leur affirmation, ils offrent de parier cent contre un que les choses se passeront ainsi." — Delord, III. 417.

† The statement of M. Delord (III. 417) on this subject is so curious that we cannot but quote it. He says: "L'apposition des scellés sur la bôite du scrutin ne préoccupait guère ces fonctionnaires. Ils laissaient au brigadier de gendarmerie ou un maître d'école le soin de se conformer à cette prescription de la loi, assez difficile, du reste, à remplir avec un matériel électoral tellement incomplet que *dans un grand nombre de communes on votait soit dans un chapeau, soit dans un saladier, soit dans une soupière, et, à défaut de ces récipients, dans la poche du maire tenue entrebâillée* par lui et par l'adjoint ou par le garde champêtre."

. . . . He who gains by base and armed wrong,
Or guilty fraud, or base compliances,
May be despoiled; even as a stolen dress
Is stript from a convicted thief, and he
Left in the nakedness of infamy.

But even this is not all. Not only is the government overthrown, but the political life of the nation is paralyzed. " Nous n'avons pas de vie publique en France," wrote M. Taine, two years after the fall of Paris ; and the explanation of the truth is in the fact that the public has been so often duped and deceived by the government that it no longer cares what the government is. That the nation is not yet cured of its political ills the world had startling evidence the other day, when M. Gambetta produced in the Assembly the circular of the Minister of the Interior, asking the *préfets* for the names of such political journals as were capable of becoming friendly to the government. The incident affords new proof of the truth of Virgil's declaration : —

Facilis descensus Averni;
Noctes atque dies patet atri janua Ditis,
Sed revocare gradum superasque evadere ad auras
Hoc opus, hic labor est.

CHARLES KENDALL ADAMS.

Art. IV. — Our Electoral Machinery.

It is a curiosity of our electoral machinery, that while it still continues in active operation, and is working apparently as well as ever, it yet gauges the total departure that has been made from the political conditions for which it was originally devised. In nearly every respect its use is different from that which was intended. The framers of the Constitution thought that in the electoral college they had provided a carefully selected deliberative body, near enough to the people to feel public sentiment, and yet sufficiently removed to express with entire independence the national judgment, and who should thus choose the President and Vice-President of the United States "without fear, favor, or affection," to use Jefferson's words in another relation. Instead of this, we merely have the electors as so many expressions of the Presidential votes cast by their respective States, of no more personal independence, of no more political vitality, in fact, than the paper upon which their names are written; for eighty years' experience has not furnished a single instance of a Presidential elector casting his vote otherwise than as the organ of the party which procured his nomination. Here is a case, certainly, where the Fathers of the Republic, so accurate in their perceptions of the national wants in most respects, and so almost prophetic in their discernment of the national future in its essential drift, missed the mark entirely. Their mistake, however, has fared in practice not unlike "Lord Timothy Dexter's" venture of sending a cargo of warming-pans to the West Indies, where, with the covers wrenched off, those Northern utensils were found to work admirably as scoops for use at the sugar-mills. Still better scoops could undoubtedly have been made expressly for the business; and so in regard to our electoral machinery, time and again, — indeed, after every Presidential election, — agitation has sprung up in favor of substituting some other arrangement which shall be both more simple and safe, and at the same time more equitable and effectual, — a problem which, like so many others, it has been found easier to state than to solve.

The first point of consideration relates to the real objections resting against the present mode of choosing Presidents and Vice-Presidents. Generally, whenever this subject comes under consideration, there is pointed out a formidable list of faults, each one of which is assumed to be sufficient, if abetted by suitable and not improbable circumstances, to plunge the country into all the horrors of civil war. Forty-five years ago the Hon. Mr. McDuffie, of South Carolina, in the course of that speech in favor of the district system of choosing Presidential electors which was luridly lighted up by the celebrated passage on political corruption, so well known to our school-boys on declamation days, said to his Congressional hearers: "The destiny, not only of the rising millions that are to come after us here, but that of the whole civilized world, hangs trembling on *the issue of our deliberations!*" And yet nothing was then and there done, while the whole package of the perils of inaction was left to be unrolled afresh by Senator Morton at the last session of Congress. The truth is, the institutions of the United States repose on no such ticklish basis as to be upset by one imperfect or even fraudulent election, especially if the trouble is seen to come through defects of law. We have already had minority Presidents more than once chosen by the people, and we have had a President chosen by Congress when one of the defeated contestants was unmistakably the popular favorite; while there never has been an election exempt from charges, and, what is worse, some evidences, of fraud. It is precisely the same in the working of other parts of our political and governmental machinery, — rogues slip through the courts, bad judges may get on the bench, defalcations too frequently signalize unfit civil appointments, Congressmen, as we have seen, may prove far from immaculate, laws are sometimes passed which have to be speedily repealed, and even Presidents, duly installed, have been threatened with impeachment. All this, of course, affords no reason why any evil or defect attaching to our electoral system that can be remedied should be tolerated any longer; but it does warrant the assurance that, in the treatment of this question, there is no occasion for panic or for hurrying into any change which shall not prove a reform.

The objection to the present system which is more frequently urged than any other is, that it throws the whole electoral vote of a State solidly on one side or the other, thus, as it were, annihilating the voice of a minority, of perhaps hundreds of thousands in a great State like New York, where a bare majority of votes may elect thirty-five Presidential electors, and so possibly neutralize the will of, say, five of the New England States, pronounced by heavy aggregate majorities the other way. It is an objection so valid that there is great danger of its being exaggerated. We will therefore copy the most cogent defence of the general system, as contrasted with the district system, that we remember to have met with, namely, the following passage in the speech of Edward Everett, delivered in the House of Representatives in 1826.

> "I conceive the practical operation of the two systems to come nearly to the same thing. I say this on grounds of reasoning, and I am not aware that there is anything in experience to bring us to a different conclusion. On the general ticket system, supposing it to be generally adopted throughout the United States, the unrepresented majorities would be balanced by each other; or, in other words, the minority, whose voice is not heard in one State, on one side of the question, would be balanced by the minority, whose voice is not heard, in another State, on another side of the question. On the district system, the same result would take place. The minority *represented* in the electoral colleges, on one side of the question, in one State, would be balanced, and, being balanced, would be neutralized, by the minority represented in another State, on the other side of the question; and therefore, in their practical operation, there would be very little to choose between the two systems."

It is really a question of the degree to which the political community shall be divided up, in voting for President and Vice-President. In the one case the States are units for choosing a body, larger or smaller, of Presidential electors; in the other, the districts are units for choosing one elector each. Precisely the same process which is now gone through with by Pennsylvania, for instance, in choosing its twenty-nine electors, would, under the district system, characterize the choice of its one elector by each district, — that is, the majority does and would elect, the minority is and would be absorbed; only, the whole minority of a State would be silenced in the one case, while local sections of it might triumph in the other. Thus, owing to the greater minuteness of the division of the voting community under the district system, the sentiment of the country would be more accurately collected. If a State geologist were restricted to the exploration of but little more than half of the area of a State, in order to get the best idea he could of the whole of it, and if he could choose between making his inspection by counties and making it by towns, of course he would prefer the latter; for though the half of the counties selected for the purpose might give the average distribution of upland, meadow, and marsh, and of the different soils, formations, and other data required, yet half of the towns could be designated which would be much more certain to do so. In like manner, by the district system, as compared with the other, there is, so to speak, a closer fit, the points of contact with the voting mass are multiplied and more evenly distributed, and the risks of error are correspondingly diminished; the units are more and the fractions are less. Even where the aggregate results of the two systems would be about the same, — as probably they would be in most cases, — the *distribution* of the electoral votes would, in general, be more satisfactory under the district system. The Democratic minority in Massachusetts now may have its Presidential voting done by its kindred majority in Kentucky, but probably it would prefer to have the chance of doing its own voting by districts, — a preference equally shared by the Republican minority of Kentucky, now stifled. In short, it is perfectly clear that, in point of accurate expression of the voting sentiment of the country, the district system is decidedly to be preferred to the general ticket system.

And yet it is to be observed that, with the growth of the country, this disadvantage of the general system is practically becoming less and less. The States are more numerous, and the districts are growing numerically larger, so that the disparity between the two constantly lessens. The political tradition for more than half a century was that no man could be elected President without the vote of New York; but General Grant was so elected in 1868; and under the new census the vote of New York, or of any other large State, is less important now than it was then. In fact, when our electoral system was first applied, in the Presidential election of 1792, the then largest State, Virginia, threw over fifteen per cent of the entire electoral vote ; in the election of 1812, New York, having then become the largest State, cast thirteen per cent of the total vote, while she now casts but nine per cent thereof. The change will appear still more marked if we look at it from another point of view. In the election of 1792, the combined vote of the four largest States very nearly equalled one half of the total electoral vote of the Union, while Virginia, Massachusetts, Pennsylvania, New York, and North Carolina — then the largest States in the order here mentioned — might, if united, have carried the Presidential election, with several votes to spare. In 1812, a majority of the electoral votes could still have been obtained from the five States of New York, Pennsylvania, Virginia, Massachusetts, and Kentucky. Now, however, a President cannot be elected by less than *eleven* of the largest States of the Union combined, viz.: New York, Pennsylvania, Ohio, Illinois, Indiana, Missouri, Kentucky, Tennessee, Virginia, Georgia, and Iowa. These facts go to show merely that the disadvantages of the general ticket system, as a method of collecting the sentiment of the people, and the dangers of local injustice arising therefrom, are steadily lessening with the growth of the country.

We ought also to remark that we consider the time as worse than thrown away which is spent in conjecturing the evils of any combination in politics between the large States against the small. There is only one issue that can ever thus divide the States of the Union, and that would be the proposition to take away the equality of powers (as in the representation in the United States Senate, and, based upon that, the equal fraction of representation in the electoral college) now guaranteed by the Constitution. As to all other questions, the large States have usually been found, and probably always will be, pretty equally divided between the opposing parties and the different sections of the country, so that they practically offset one another.

Connected with this consideration of the size of States, however, is the question of the relative exposure to frauds, — un-happily coming to be of primary importance. A fraudulent ballot cast at a Presidential election in New York affects thirty-five electors, or nearly one fifth of the whole number requisite to the choice of a President. In Rhode Island such a ballot affects only three electors, or less than one sixtieth of a majority of the whole electoral college. Here is a direct bounty on the concentration of fraudulent efforts of all kinds in the large States, whereby not only a vicious influence of fearful intensity is thrown into the scale of a national election, but all the local elements of corruption, ever sufficiently formidable in our most populous States, are powerfully reinforced. The evidences of this mischief may be conceded as having already become sufficiently obvious in States like New York and Pennsylvania, and yet there is an occasional qualification here that ought not to be entirely overlooked. Pennsylvania, for instance, in the last Presidential election, threw 134,000 popular majority for Grant. Suppose that there was, and was only, a valid Republican majority in the State of not much over thirty thousand; then upwards of one hundred thousand fraudulent votes would have been absorbed and shelved where they could do no harm to the result of the election; whereas, if that or a similar amount of fraud had been distributed among smaller and closer States, it might have irresistibly controlled the national decision. If, then, the great States magnify the power of the individual ballot up to a certain point, beyond that they may nullify it to a corresponding extent. Practically, however, fraudulent attempts at the polls will always be made upon the supposition that they are to tell; so that if a given large State is regarded as sure, either on one side or the other, the current of corruption will be directed elsewhere. Now, under the district system, on the other hand, a fraud upon the ballot-box can affect but one elector, unless two electors at large should be chosen by each State, in which case but three electors, at the most, could be affected by a given fraud. This would at once relieve the large States from the extraordinary pressure of corruption now weighing upon them; and it would also relieve every Presidential election from the danger of being unduly vitiated, and perhaps controlled, by fraudulent votes turning the scale in one or more of the large States. In this connection — as to the bearings of fraud — let us also inquire what would be the effect of an election of President and Vice-President directly by the people. We have seen that under the present system a fraudulent vote may carry all the Presidential electors of a State, with the contingency of being without effect when thrown in aid of a valid majority already existing in such State; that under the district system the power of fraudulent votes throughout the Union would be made uniform, and cut down to its present minimum (that is, of affecting three electoral votes); now under the direct popular system of voting, with its practical obliteration of State lines, every fraud, wherever perpetrated, — whether in the large or the small States, in the metropolitan centres or on the frontier, — would be sure to tell on the result, would never be thrown away, unless it proved afterwards — and too late — that it was not needed. In other words, to sum up this branch of the matter, the district system localizes fraud and equalizes its power at a minimum; the general ticket system magnifies it according to the varying size of States, subject to corresponding failure when a valid majority needs no such aids; while the popular system nationalizes fraud and utilizes every fraction of it that can be made available.

While it is apparent that the working of our electoral machinery is wholly different from the theories and the intentions of the framers of the Constitution, that fact alone might not necessitate a change. Nothing is more curious in the history of governments than the occasional instances in which the genius of a people subdues to itself the institutions which were designed to direct it; and we believe Dr. Paley argues in favor of having a certain latitude of laws, or an extra stock on hand, in order that the popular will may suit itself easily. At all events, it has come to pass that the electoral colleges of the States, which were meant to act independently, above the people and in disregard of parties, have never been anything but the passive and complete instruments of party. What was constructed as the brake on the coach of state has become only the lever for effecting the periodical oiling of the wheels. The fiction of the form, therefore, is of no account in comparison with the inefficiency in fact; so that the only objections to the present system worth considering are those which relate to points wherein its working is defective or is beset with possible dangers.

In this respect our electoral machinery deserves the greater part of the condemnation passed upon it by Senator Morton, in his speech in the Senate. To begin with it on election day, it does not allow the names of the two persons who are to be really voted for to appear on the tickets; but in their stead is a long list of names, so that it requires some degree of political training in the voter to know what he is about, while the liability to mistakes in the mere spelling of the names of so many candidates is an item of serious importance. Secondly, there are no means provided for settling contests arising between different sets of electors, so that, in such cases, Congress is compelled to choose between them, under circumstances seldom favorable for reaching a just decision. Thirdly, contingencies may prevent the electors from complying with the terms of the law in regard to the casting of their votes, — as was the case with the electors of Wisconsin in 1857, when they were prevented by a snow-storm from meeting at the time required. Fourthly, although the danger of the electors proving recreant to their trust, so that they shall not vote as designed by their nominators, has never yet been practically illustrated, yet it still exists; and as, under the changes to which our political condition is manifestly subject, it may become real, and as it can be removed, it is properly to be taken into account. Contingencies may arise which shall expose the electors to a dangerous test, as, for instance, the death of the successful candidate for the Presidency happening between the day of election and the meeting of the electors. Had General Grant died when Mr. Greeley did, the strain to which the Republican electors might have been subjected can be readily imagined. Fifthly, the constitutional directions in regard to opening and counting the votes in Congress are so vague that they are in danger of leading to grave abuses, as they have actually led to one, namely, "the twenty-second joint rule," whereby the vote of either House serves to prevent the electoral vote of a State from being counted. Had the rule required the concurrent action of both branches of Congress, in order to effect the suppression of the voice of a State in the exercise of so important a function, it would have been more in accordance with the regard due to the people of the United States when acting in discharge of their constitutional duties. As it is, there is nothing to excuse the arrogant pretensions of such a rule but the fact of its origin in an exceptional emergency, when the relations of several States to the Federal government were partially suspended, so that their electoral votes had need of extraordinary scrutiny,—which excuse, of course, ceased to be valid some time previous to the last Presidential election. The truth is, moreover, that the power to reject the electoral vote of a State ought never to be given to Congress; because, first, no State, except in the midst of rebellion or other abnormal exigency, should be subjected to the risk, in any form, of losing its vote for President and Vice-President; and, secondly, Congress is not the proper tribunal to decide such a question. Its definite constitutional power in the premises is confined to the *counting* of the electoral votes. The verification of the votes, the putting them in countable shape, should have been accomplished before this function of Congress begins. The folly of the existing mode of procedure is sufficiently seen in such a fact as this, namely, to determine the election of one of its own members, either branch of Congress may consume months of committee hearing, sending in the mean time for persons and papers, and may discuss the matter to the fullest extent; while, if the counting of the electoral vote of a State be objected to, the question, under the twenty-second joint rule, must be settled — and the action of *either* House will suffice to settle it — at once and without a word of debate, and therefore, practically, without any adequate examination! Sixthly, although the method of choosing Presidential electors in the several States has come to be quite uniform, we must remember that the Constitution still provides that each State may appoint its electors "in such manner as the Legislature thereof may direct,"— that is, they may be chosen as a body by the whole body of voters in the State, or separately by districts, or by the Legislature itself, or they may be appointed by the Governor or other designated agent (as the Supreme Court) of the State, or even, like jurors, they may be selected by lot. As the causes which have of late years tended toward uniformity may yet lose their force and give way to those producing variety, and with variety unequal and unjust results, this prerogative should not be left with the State Legislatures.

With regard to that part of the constitutional machinery which, in the event of a failure to elect a President and Vice-President by the people, devolves the choice upon the House of Representatives, we think it needs no argument to pronounce it indefensible by any reasons founded in justice or equity, in consistency, feasibility, or safety. It is, in fact, the clumsiest clause in the Constitution. It makes the vote of Nebraska or Florida of the same weight as that of New York or Pennsylvania; and if the delegation of a State, chosen two years before, happens to be politically divided, the voice of their constituents is extinguished, unless it is rescued by the terrible temptation to bribery. Rarely could any satisfactory result accrue from such an artificial, anti-republican arrangement, while all the probabilities point to crises productive of bitter excitement among the people and of a serious strain upon the government.

Such in outline are the main defects of our electoral machinery. We should not make any progress in attempting to cure them without first getting a clear idea of the political changes which have brought these defects so glaringly to light. One reason why our fathers made this part of the Constitution so different from what we should do, if we had to do it anew, was, that their expectations of the average character of the Presidents to be chosen by it were so unlike ours. General Hamilton in the "Federalist," reviewing the electoral provisions, says with great solemnity: "This process of election affords a moral certainty that the office of President will seldom fall to the lot of any man who is not in an eminent degree endowed with the requisite qualifications." Indeed, he continues: "It will not be too strong to say, that there will be a constant probability of seeing the station filled by characters *pre-eminent for ability and virtue.*" It *is* too strong to say that. We may still hope, indeed, that Presidents of the United States positively unworthy will rarely, if ever, be seen; but we are forced to conclude that the prospect of the choice falling upon our best statesmen, our *élite* of ability and virtue, is nearly as exceptional. The processes calculated to produce this conviction have been in operation during at least a third of a century, — long enough to stifle in defeat the honorable aspirations of a Clay, a Webster, and a Cass, — and the war period gave them an irresistible impulse. Power has been transferred from the executive to the legislative branch of the government, so diminishing the importance and prestige of incumbency in the former that a candidate for the Presidency has come to be selected mainly on the ground of availability, that is, as affording a good watchword and rallying cry for an electioneering campaign. The paramount object is generally party success, and the Presidential nomination is made with a view to that rather than to the highest efficiency in office. First-class statesmanship, with the boldness, vigor, and long service which the term implies, hardly accords with such a limited *rôle;* and, indeed, would hardly find room for its exercise in discharging the ordinary duties of the office, should its possessor happen to be elected. We are not to expect, then, to see another Jefferson, Madison, or John Quincy Adams in the Presidential chair; and if we ever see another Abraham Lincoln, it will be due to some such misapprehension as that which masked, in the person of a successful stump speaker of good sense and popular qualities, the grand, providential requisites for an unseen crisis. Hence it may be doubted whether, so far as the Presidency alone is concerned, it would be worth while to go to the trouble of changing, through Constitutional amendment, the provisions we have been considering. The anticipation, so often expressed, that a change of machinery will give us a higher order of Presidents, is not warranted, because no change is possible which will not facilitate the tendencies of the times toward complete party ascendency. In short, precisely what the framers of the Constitution sought to avoid by their method of choosing Presidents, — namely, the domination of party, — we must seek to bring about fairly and equitably by the improvement of their method.

It would seem that by this time the prevailing tone of publicists — our own as well as those of other countries — respecting parties as something which may be and certainly ought to be discarded from all respectable political communities, should be laid aside. Not to dwell upon the inferences to be drawn from the ancient nations, the varied and instructive political history of England and our own constant experience as a free people leave no room whatever to doubt that parties — and normally but two coexistent parties — are among the inevitable conditions for the conduct of constitutional government. They are not, therefore, to be called "necessary evils" in any other sense than that in which the phrase may be applied to the government itself; for what are they but the people in the broadest and simplest classification in which we are accustomed to find them? In themselves, being of purely instrumental nature, they are destitute of moral quality. While it is obvious that a good cause may suffer somewhat in its ideal purity before it can be realized and applied through party machinery, it is equally obvious that the party action of a great many individuals is far better than we should be warranted in expecting from their personal characters. In the long run, and as a general rule, parties are neither better nor worse than the people who compose them, — that is, the whole people of the country. They arise from the fact that in no other way can movements which are to end in needed laws take form, get consistency and organization, and adapt themselves to the times, in the midst of what would otherwise be a mere mass of individuals, with as many notions and shades of notions as there would be minds to entertain them; and the same law that calls parties into existence as clearly limits them ordinarily to two, since more destroy their value as sifting and decisive agencies of public opinion. They are the upper and nether millstones, the two blades of the scissors, the plaintiff and defendant sides in court; and usually in practice they are the progressive and conservative principles of society, distinctively organized and brought to bear upon the questions of the times. A third party is either an outgrown one on the way to extinction or a new one coming to displace that which lags superfluous on the stage. In short, it is impossible to conceive of the American people except as arrayed in antagonistic political organizations. The folly of attempting to recast our electoral machinery with the hope of ignoring, evading, or counteracting the power of parties, ought to be sufficiently evident from the mere recollection how completely the working of the present system has been wrenched from the intentions of its devisers who cherished that same hope. Any reform must start with the assumption, not only that parties will always exist in the Republic, but that their highest energy will be exerted in the choice of President and Vice-President, and that their efficiency therein is to be facilitated rather than frustrated. This consideration will save intelligent reformers from wasting their ingenuity in efforts to remedy certain alleged defects of our electoral system, as, for instance, that it does not allow a voter to discriminate between candidates for President and for Vice-President, so that he may select one from one ticket and the other from another; or that it does not give a person a chance to vote as he wishes, unless there are enough persons of his opinion in the same State to get up an electoral ticket. If the rule is to be that every voter is a member of a national party, then he will choose to vote for none but his two candidates; and if his party is not strong enough to have local tickets everywhere, it is of no use for its members to enter into a Presidential contest. The exceptional cases which have been cited under this head were owing to the terrorism of slavery, and can never be repeated.

Of the numerous plans which have been proposed to supersede the present electoral system, a few of a representative character will suffice for consideration. The idea of choosing the President and Vice-President directly by the people has been carefully embodied in a proposed amendment of the Constitution, drawn up and submitted to the United States Senate by Hon. Charles Sumner. Its main points are as follows: The regular Presidential election is to be held on the first Monday of April, and the result in each State and Territory is to be certified and forwarded to the seat of government as Congress by law may direct. On the Tuesday next succeeding the third Monday in May, the returns shall be opened in joint convention of the two Houses of Congress, and the person having a majority of the votes cast shall be President. If no person have such majority, or the person having it decline the office or die before the counting of the vote, then the President of the Senate shall so proclaim, and the proceedings shall be officially published, and another election shall be held on the following second Tuesday of October, at which the three persons having the highest number of votes at the preceding April election shall be voted for by the people. These votes shall be counted in Congress on the third Tuesday in December following, and the result proclaimed. In case of a vacancy occurring in the office of the President, the members of Congress in joint convention shall proceed to elect by *viva voce* vote a President to fill such vacancy, each member having one vote, and a majority being requisite for election. The President shall not be eligible for re-election; and the office of Vice-President shall be abolished.

In the preamble to this plan, Senator Sumner states that he is moved by a desire "to supersede the caucus or convention, so that it shall no longer be the engine for the nomination of the President," or the instrument of his will after he is elected. But how the proposed change is going to effect that object he does not explain, and no one, probably, will be able to see. Does Senator Sumner imagine that, under his plan, the people of the United States would go to the polls and vote according to their individual preferences, without previous party or other consultation? Parties, certainly, would continue to exist precisely as under the present system; partisan concert of action would be equally necessary to success; and caucuses, or something similar, would be just as indispensable to such concert of action. The chief motive, therefore, of Mr. Sumner's plan fails. The objections to it on the score of fraud we have already presented in contrasting the risks of the three main systems in this respect, and they seem to us insurmountable. Secondly, in basing Presidential elections entirely upon the popular vote, without regard to State lines, and in rejecting that equal element of Senatorial representation which now forms a part of the electoral vote of every State, the harmony of our governmental system is materially impaired. It was meant that the President, as the head of the Federal Union, should be elected by the States as well as by the people; and since the principle has worked well in practice, there is no reason for sanctioning an innovation which would probably next be extended to the representation in the United States Senate, and might not stop till the balance of the government was destroyed. But, thirdly, whatever may be the inherent force of the last-mentioned consideration, there is not the slightest doubt that its practical influence will always be sufficient, with a sufficient number of the smaller States, to make the agitation of this or any other plan of electing the President directly by popular vote utterly useless. Ten States, as the Union is now, can defeat any proposed Constitutional amendment. It so happens that ten States can be indicated which have all together but twenty members of the House of Representatives, but which, under the Constitution, have *forty* Presidential electors, while New York, with thirty-three Representatives, has but thirty-five Presidential electors. That is, those States have their power in a Presidential election increased one hundred per cent, while the power of New York is increased only about six per cent. Will those States — and the same question might equally well be asked of half a dozen other States — ever be induced to relinquish such advantages? There is no prospect of reform in this direction.

Another plan which may be fairly put at the head of the many propositions to substitute the district system for the general ticket system, without impairing the federative principle of the equality of the States, now secured by the Constitution to the people in voting for President and Vice-President, is the following, which was presented to Congress some years ago, but never acted upon.

ARTICLE.

The electors of President and Vice-President shall be chosen as follows: —

Two electors of President and Vice-President shall be chosen at large, from each State, by the qualified voters therein.

A number of electors in each State equal to the whole number of Representatives to which such State may be entitled in Congress shall be chosen in single districts of contiguous and compact territory, each containing, as near as practicable, an equal amount of population.

Congress shall prescribe the mode of determining the validity of the choice of electors, and of contesting the right to the office of President and Vice-President.

The merits of this plan are obvious. It allows the voice of the States, as States, its just, or constitutional, force and expression, while it collects the will of the people by as close a local division as the nature of the case will permit. It reduces the effect of frauds to a minimum, and correspondingly removes the temptation to commit them. These are great advantages. The most obvious objection to the plan will be found in the necessity it involves of marking off the electoral districts of a State, which may open the door to the heinous fraud of "gerrymandering," — an objection, indeed, which attaches to any form of the district system yet proposed, and which might practically neutralize all its advantages. The above scheme does not specify whether the apportionment should be made by State or by national authority; but, clearly, it should not be by the latter, for then the whole electoral machinery of the Union might receive a partisan distortion on one side, whereas the States, even if acting in the matter under a strong partisan bias, might in a measure offset one another; besides, the power, according to the principles of our system, would seem to belong to the States. Or if any national requirement should be made in the premises, it might be to the effect that the electoral districts should correspond in all cases with the Congressional districts, — two electors-at-large being chosen by the voters of the whole State, — which would still leave the apportionment in the control of the States, but, by blending it with an apportionment for other purposes, would diminish the temptations to unfairness. The plan, also, as forming a part of the Constitution, should clearly specify — and not leave to Congress to prescribe — "the mode of determining the validity of the choice of electors," which is one of the most vital needs of the present system. We should naturally say that the right of counting and declaring the votes thrown for Presidential electors could not be more safely deposited than with the Governor and Council of a State, if it had not been for the experience of Louisiana at the last Presidential election, when there were rival Governors, to neither of whom could such a function have been safely committed. Although such an instance may never occur again, it might be advisable to require that this determination of the validity of electors should be exercised by the Supreme Court of each State, or by the United States circuit or district court having jurisdiction within it. Another omission of the plan is its silence with regard to non-election by the people, — a point which we will consider hereafter. It will have been noticed that the plan, if adopted, would still leave the Presidential electors untouched, together with many of the disadvantages attaching to such an intermediate body, as, for instance, the inability of the voter to use the names of the persons he is actually voting for, thus keeping up the old roundabout, confusing, and apparently useless process; the danger of the electors finally casting their votes in defiance of the people who had chosen them; and their liability to accidents, which might prevent them from depositing their votes according to the requirements of law.

When, therefore, we have got so far in schemes of reform, why not take a step farther and abolish the electoral college altogether? The only difficulty, of course, is in providing a satisfactory substitute, having reference not only to existing evils, but to "those we know not of." It has been proposed that, the electoral college having been dispensed with, each State should be declared entitled, as now, to a number of Presidential votes equal to the number of its Senators and Representatives in Congress. These votes, gathered from the result at the polls,— where the ballots should bear the names of the candidates for President and Vice-President voted for, — should be certified to by the Governor, or the Supreme Court, as the Constitution should require, and forwarded to Congress; the certification being final, and leaving Congress no discretion in regard to counting the votes. Such a plan, while preserving to the States their Constitutional measure of power over the Presidency, would efface all the evils and liabilities to abuse belonging to the electoral bodies; but it would retain the vote by States, with its imperfect collection of the popular will, occasional injustice, and the excessive influence of frauds in the larger States. If the latter drawbacks could be removed, the plan would seem to be at least in the right direction. One method of doing this — that is, of dividing the Presidential vote of a State according to the popular division manifested at the polls — might be accomplished through the principle of minority representation. The footings of the votes of the two parties on election day would show what proportion of the Presidential votes of the State each party would be entitled to. Thus if the State should have twelve Presidential votes, and there should be 60,000 ballots cast by one party and 84,000 by the other, then the candidates of the latter should be declared to have received seven of the electoral votes to the rival candidates' five. The difficulty of making an accurate fractional division of the electoral votes need not be regarded as serious, for any general arrangement for that purpose would bear equally upon the opposing parties in the great majority of cases, and would be no more severe than the ordinary hardships of the apportionment system, while wholly exempt from the fraudulent element too often adhering to that system in practice. Or, perhaps, the same object might be attained in this way: Two of the Presidential or electoral votes should be credited to the State at large, the others belonging to the several Congressional districts. All the ballots at a Presidential election should be marked according to the district in which they were cast, — as "Maine, First Congressional District," etc. The counting by districts, therefore, would determine the electoral vote of each district, while the footing up of the whole would give the result as to the two electoral votes at large. This method would be entirely in harmony with the Constitutional theory of the Presidency, and, joined to some safe plan of certification and the other desirable reforms indicated above, would seem to afford as good a framework as any other for bringing this problem to a practical solution.

There remains the contingency of non-election by the people, not often to be encountered under the modern tendency of parties, but still possible, and too important to be unprovided for. In such an event we believe it is by all means advisable that the people should be called upon to do their work over again, as Mr. Sumner's plan provides. At the first thought it appears something like a hardship to subject the country to a second Presidential election in a single season; but an election is an election, and it is no more trouble to go to the polls to elect a President of the United States than to choose the humblest local officer. The decision would be reached as quickly in this way as if it were left to Congress, with far less, and less deleterious, excitement, and infinitely more satisfaction over the result. If, then, the Presidential election should be held as now in November, or, still better, in October, the completely certified votes of all the States, — even if some one or more of them should have been compelled to remedy the defects of a first election, — would be ready for Congress at its meeting in December, in season to have the result proclaimed by the President, and, if necessary, another election appointed in January, under the condition that the voting should be confined to the two highest candidates at the first election.

If, however, it should be deemed best, in the event of a failure to elect a President and Vice-President by the people, to throw the election into Congress, then the present method of taking the vote there should be done away, root and branch. The true mode of procedure would be for both Houses of Congress to meet in joint convention, each Senator and Representative having one vote. This plan has met the approval of both Senator Sumner and Senator Morton, the latter saying of it: "This would be in exact harmony with the principles upon which the election is now to be made by the people of the several States." With regard to this measure of electoral reform, at least, we do not think there can be diversity of opinion enough among reflecting men to call for any argument.

ART. V. — *On Intelligence.* By H. TAINE, D. C. L., Oxon. Translated from the French by T. D. HAYE, and revised with Additions by the Author. New York: Holt and Williams. 1872.

As an historian of art and literature, M. Taine is known to all the world. His lucid and sparkling expositions of the characteristics of Italian and Flemish painting, and his brilliant delineations of the distinctive traits of English authors, are familiar to every intelligent reader. As a metaphysician, however, we fear that he has yet been hardly noticed. We doubt if the work whose title we cite for our text has had already more than a handful of readers. And yet it is a book eminently worthy of study, exceedingly interesting, even to him who reads merely for entertainment. It is destitute of none of the charms of diction which lend such fascination to his more familiar works. His views come before us with an admirable order, whose perfect sequence seems almost a demonstration. Every idea is clear-cut. Every expression is a transparent medium through which the thought is seen as easily and surely as pebbles in a pure mountain pool. No technical, eccentric, or too abstract phraseology necessitates, as with so many philosophical writers, a continual process of translation into common language before we can understand what is meant. Curious examples and striking illustrations clothe the argument with captivating draperies. In short, M. Taine in this, as in his other works, shows everywhere the genuine French *esprit.* His Gallic blood is the sufficient guaranty that, however solid and forbidding be the title and the subject of the work, the contents will not fail to furnish appetizing food, even to those who can relish nothing that is not light and well spiced.

And to the serious student it is of great importance. M. Taine calls it himself "the work that he has most fully meditated." In the determination of his rank as a thinker, he would doubtless prefer to be judged by it rather than by any of his more popular volumes. He looks, we imagine, to this, rather than to those, to establish his claim to a permanent and high place in standard literature. For it contains in full and reasoned form the principles that all his other works variously illustrate. Many critics seem to have no settled standards. They praise or blame as they happen to fancy. Many historians appear to have no suspicion of any order in their department. They are content to trace down the line of events as a mere capricious succession, without grasping any underlying principles. They sketch epochs and their leaders, and pronounce their judgments without mistrusting any connection between the individual and his time. This was once thought entirely sufficient. But the demand at the present time is for the discovery of the laws of things. The modern critic or historian must be a philosopher. He must tell us the *rationale* of every change. He must find some familiar law hid under every odd aspect. The reader of Hippolyte Taine knows him as emphatically a writer of this latter stamp. He has most evidently definite theories, and he is uneasy till he finds each phenomenon that he takes up conform to some of his established rules or favorite hypotheses. History, in his view, is but applied psychology. "The historian," he says, "notes and traces the total transformation presented by a particular human molecule or group of human molecules, and, to explain these transformations, writes the psychology of the molecule or group. Carlyle has written that of Cromwell; Sainte-Beuve, that of Port Royal; Stendhal has made twenty attempts on that of the Italians. M. Renan has given us that of the Semitic race. . . . The task is invariably the description of a human mind or of the characteristics common to a group of human minds."

For fifteen years, as M. Taine says, he had labored at these special and concrete psychologies. In the present work he attempts general and abstract psychology.

The principles which in his other works are hinted at and illustrated — which, when unexhibited, nevertheless guide his criticisms, mould his thought, supply the mental fibre for those ties which he believes he sees running up and down and out and in — are here formally stated, supported, and defended. He who would know their strength or their weakness — the strength or the weakness of his whole literary work — may best determine it by an examination of this his fullest exposition of them.

There are two great ways of studying the human mind, quite opposite to each other. One is to observe man from the inside; the other, to observe him from the outside. The first method employs consciousness as its chief instrument. It fixes the attention upon the various operations of the mind as they take place within, and endeavors by a direct sight, as it were, to see what it is that actually occurs when we feel, or perceive, or recollect, or imagine. It seeks to discriminate between the nature of various mental processes and between the various steps of these processes. From the various mental states it derives the faculties in which they originate. From properties it deduces substances; from effects, causes.

The facts of which it thus finds the mind directly conscious, and the deductions it makes from them, it takes as entirely trustworthy, and uses them to cut at a blow every troublesome knot. Reaching its results thus from the inside, it believes that it penetrates to the very ultimate sources and hidden essences of things. This is the most natural and easy way of studying man. It opens at once a grand mine and a rich one. At first, apparently, it is the most fruitful one that could be worked. In it Socrates and Plato and Descartes found the precious jewels of knowledge which shine as diamond circlets about their names. While physical science was still indulging in the crudest fancies, entirely without organization or solid basis of laws, mental science, thanks to this direct view of the interior of the mind which consciousness gave, had already made discoveries so great that it has since been able to add comparatively little to them. Until the time of Bacon this method of psychological observation enjoyed almost a monopoly. But when the inductive method had shown in the fields of physical research what great conquests it was capable of making, it was natural that it should be applied to the investigation of the mind also. The nature of the soul now came to be studied in its effects. Ethnographers noted the characteristics of races; philologists, the manifestations of intelligence in language; political writers, its play in civil construction. Anatomists patiently searched into the structure of the physical organism. Physicians watched the variations in human conduct produced by abnormal conditions of mind and body. By comparison and statistics, these results are generalized. By subtle analysis their results are disengaged. Passing by the profounder inquiries as to the essences and causes of things, it addresses itself directly to observing the succession of emotions and ideas, — remarking the constant association among them, and learning the outward conditions of mental phenomena, and the formation of the more complex from the more simple.

This method of studying the mind as a distinct and valuable process may be traced back, as we have already hinted, to the grand reformation in investigation which Bacon worked. In the seventeenth and eighteenth centuries, Locke and Hume, Berkeley and Condillac, used it with great effect. At the present day, it is the method by which Buckle and Bain, Maudsley and John Stuart Mill, have reached, or pretend to have reached, such astonishing results, laying the axe to the root of the most accepted beliefs, and establishing as facts, so it is claimed, the most paradoxical of theories.

Now in France, since the close of the Middle Ages and the decease of scholasticism, these two fundamental methods have been two opposite poles between which philosophical thought has swung to and fro.

The metaphysical needle, vibrating from the theories of Descartes to those of Malebranche, then to those of Arnault, and next to those of Condillac, was found in the eighteenth century pointing strongly to a pronounced sensationalism, and even to an undisguised materialism. The eighteenth century, therefore, naturally commenced with a reaction. Philosophy, having lived for three quarters of a century with no other food than matter, motion, and what the senses had to give, thirsted by this time for more solid food. It was weary of Condillac and the Encyclopedists, and welcomed with enthusiasm the doctrines which Laromiguière, Roger Collard, and Maine de Biran proclaimed in opposition to them. These returned to the older method of studying the mind, — the internal. They replaced consciousness and common-sense on the seats of authority. They asserted for the mind an independent power or source of knowledge. Some first principles, some fundamental laws of belief, are necessary, they asserted, to give a basis to knowledge. These are discovered and established by the inward sense, especially by reflection. The mind knows itself directly, not only as a cause, but as a permanent cause. It has independent activity and durable unity. The mind recognizes a distinction between the affections of its causative energy and of its organism, and thus recognizes its organism as something different from itself. The muscular efforts of the organism meet resistance from without, and by induction, combined with the intuition of the principle of causality, the mind knows an external material world as the cause of the resistance. The ideas of cause, substance, space, time, are not mere signs or extracts from sensation or derivations from experience, but are fundamental notions, of which the intelligence cannot divest itself, — ideas which must be regarded as universal and absolute.

These views, boldly and eloquently advocated, turned quite round again the current of French philosophy. Where not accepted and reasserted in their detail, they were in their principles and most important results. Jouffroy did little more than apply their results in the sharp and well-sustained distinctions which he drew between physiology and psychology. Cousin, starting forth under their impulsion, explored ancient and modern philosophy, culling whatever he thought would support or harmonize with them, and formed his famous Eclectic system, which, for a time, was popular. Philosophy had been living in a profound ignorance of the past, and with ardent enthusiasm betook itself to the newly opened door through which it was given such curious pictures of ancient schools and foreign systems. Cousin had perfect command of a rich and beautiful style, — a style full of rhetorical effects and poetic images as well as of formulas borrowed from all the schools, and with the art of the great writer could mould all the forms of ancient and modern thought into a harmonious unity. He came before his scholars, not so much as an investigator or a teacher, as in the *rôle* of a magnificent orator, a commanding and inspiring preacher. Vague, incoherent, and superficial as was his system, improvised hastily out of elements borrowed from the Greek, German, Scottish, and French schools, and as intolerant in his conclusions as he was uncertain in his methods, he yet found it easy to win over the public. The great truths which he brought back to notice they were eager to embrace, no matter how crudely they were presented. In the absorbing taste for the novel revelations of history, erudition seemed to make science unnecessary. It was enough to give Eclecticism authority at that time, that it profoundly moved the feelings, whether or not it enlarged or purified the realm of ideas. If it could not maintain its positions before the analysis of severe judges, it possessed, nevertheless, that magical charm of style and eloquence that for a time turned its judges into admirers, and made stern criticism an impertinence.

But in the last few years the needle of French thought has shifted back once more to the opposite point of the compass.

The inevitable reaction has set in. The younger minds have felt the need of new solutions and surer methods. They have become tired, in their turn, of the continual intervention of consciousness, as a *Deus ex machina*, to solve every troublesome question, and have become sceptical as to its legitimacy and its value. They are irritated at finding their exploring feet ever stopped by the same eternal blind walls, — self, substance, power, time, space, — beyond which they are denied further advance. They are unwilling to yield these up as belonging to the impenetrable arcana of faith. They will some way find out what is inside of them, or they will prove them to be but illusions. They are no longer willing to take the dicta of unlearned common-sense as decisive. They bring everything to the test of analysis and experience. They have revived the critical spirit, — the criticism that judges not by prejudice and personal taste and varying moods, however fine, but by well-established laws and a clear discrimination of what conforms to them. Especially they have not believed that all scientific observation lay in the study of the past, as was imagined in the antiquarian fervor of Cousin's day. They have devoted themselves with an ardor, oppositely directed, but similar in intensity, to contemporary science and exact observations of nature. They have introduced scientific methods and theories into all parts of philosophical speculation, — into metaphysics, psychology, logic, and even morality. Philosophy no longer looks for its allies to history, literature, or religion. Its destiny lies no longer in their hands. It is rather to science that the looks of the various schools are directed, here with fear, there with hope, as exhausted armies look to a newly arrived column as the arbiter of the contest.

Theories of mental processes, if they would receive favor, must be based upon disclosures of physiology and natural history. No solution of an intellectual process is considered satisfactory that cannot claim corroboration by physical facts and hypotheses.

This scientific current is moving more or less all schools of thought. Spiritualists as well as materialists bear testimony to its influence. Even men like Janet, Lévêque, Ravaisson, seem to be possessed with one constant idea, — that of finding, if possible, in scientific theories and authorities auxiliaries for a spiritual philosophy which may harmonize itself with the progress of the positive sciences.*

Such is the changed phase which of late psychology in France has assumed. It is to this new school, full of what many would call the most revolutionary ideas, that Taine unmistakably belongs. He has a thorough contempt for orthodoxy. Educated in the École Normale, — a school whose professional object is to train instructors for the University, — instructed strictly to respect the accustomed masters, the theories of the great French idealogists only aroused in him the greater repugnance. He turned, instead, to the school of the English Cerebralists, and the older sensationalism which France herself had seen. It would be hardly just to call him a disciple of either Bain, Spencer, or Mill. His system has been worked out independently, from a basis of its own. Mr. Mill, from whom he seems to have studied and learned the most, he distinctly opposes in several important points. Nor would it be quite fair, either, to call him a follower of Condillac. His work is too broad and too original to be set down as an imitation of any one else's. And yet the powerful influence of those great English thinkers is very noticeable in M. Taine's system; and the theories of the famous treatise on Sensations, which for a century had lain dormant for want of satisfactory evidence, are plainly the quickening suggestions which have produced this so much more highly developed and more firmly knit work, strengthened by abundant proofs from the discoveries of modern physiology.

In this last lies the most prominent trait of M. Taine's work, — the assistance that it continually derives from the investigations of natural science. Of the two great methods of studying the mind which we have spoken of, the second, i. e. observation from the outside, especially by scrutiny of the structure and working of the physical organism, is the only one that he trusts.

In psychological inquiries he says that "consciousness is not sufficient in its ordinary state. It is no more sufficient than the naked eye is in optical inquiries. It is necessary continually to beware of it; to test and correct its evidence; nearly always to assist it; to present objects to it in a brighter light; to magnify them and construct for its use a kind of microscope or telescope." Taine finds this means of correcting or magnifying consciousness in the discoveries of anatomists as to the mechanism which the mind employs, and in the abnormal cases given us by the illusions of sickness, dreams, somnambulism, hypnotism, and lunacy. Having enjoyed several years of study in some of the famous Parisian schools of medicine, he has become fascinated with their marvels, and believes that in them lie the keys which will unlock all mental problems. He has studied diligently the great physiologists, the chief medical authorities, the records of hallucinations, and all kinds of mental eccentricities. He quotes profusely from such writers as Müller, Helmholtz, Baillarger, Brierre de Boismont, Maury, Longet, Gratiolet, Vulpian. These supply him with the materials for his system; nay, we may say that these are the masters who have determined its character.

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* For this sketch of contemporary philosophy in France, we are happy to acknowledge our indebtedness to an article of M. Vacherot's in the *Revue des Deux Mondes* for July, 1870.

The work is divided into two parts; one analytical, the other synthetical. In the first, the elements of knowledge are determined. By successive reductions the simplest forms are reached, and the physiological changes which are the condition of their origin are considered. In the second part, the mechanism and general effect of the combination are described. Then the law that has been discovered is applied, and the formation, certitude, and range of the principal kinds of knowledge are examined.

M. Taine commences with an examination of words and the mental process connected with them. The old nominalist controversy is not to him either foolish or antiquated. In the solution of the question it raised, — What is the import of an abstract word? — is the basis of the philosophy, which shall not be misled by empty illusions. Taine maintains that the word is a mere sign, — a substitute for sensations or images which are too complex to be conveniently reproduced. He disbelieves entirely in the existence, even the mental existence, of any general idea. All that passes within, when from several perceptions we disengage what we call a general notion, is simply the experience of a *tendency which urges an expression.* To imagine the abstract conception something apart from the word, to suppose that we can conceive ideal objects, is a singular illusion. We overlook the name which is the whole substance of the operation.

The abstract name denotes, he admits, a common character, an extract of the essential qualities of the given class of objects. But of this extract, the detached and isolated fragment common to all the members of the class, we cannot have either experience, perception, or sensible representation. Even the imagination can command only a varying and shifting image of it. The precise and fixed thing which we call an idea is therefore but a verbal sign, which suggests itself to the mind at the stimulus of the slightest observed point of resemblance, and enables us to carry on rapidly courses of reasoning and processes of communication.

Having swept away the whole class of general ideas into the realm of nonentity, and having thus attached the abstract name directly to the sensible image or affection of sense as a mere sign, he has at one blow cleared the way to the pure sensationalism which he would establish. The further reduction goes on now naturally and easily. Taking up the image, he finds that to be but the echo or the revivification of a sensation, of the same nature in every important respect as the sensation itself. It is distinguished from the sensation only by being excited internally, by an antecedent sensation or a disturbance of the nervous centres; while the sensation proper arises directly from a disturbance of a nerve extremity. The image is generally fragmentary, fugitive, and weak; but sometimes, by exclusive attention or through strong emotion, it may acquire the energy and distinctness of the sensation. This excess may be corrected by the simultaneous feeling of an antagonist sensation. In short, as the word is the more convenient substitute which acts for the image, so the image, in the same way, is the substitute which replaces the sensation.

By reduction upon reduction, Taine thus reaches the primitive fact, sensation, of which all the rest, whether images or ideas, are but repetitions more or less disguised.

This element appears irreducible. It is so to consciousness. But science, however, can separate many of these apparently indivisible sensations into their elements. For example, in sensations of hearing, the physical experimenter, by such instruments as Lavart's wheel or Latour's siren, can demonstrate that sensations that seem wholes are really composed of parts. Small separate sensations, repeated in quick and regular succession, unite in a continuous musical note. Noises are composed of a number of similar separate and small but irregular sensations. When isolated, these small sensations are not perceived by the inner sense. They must be added together so as to make a certain bulk, and to occupy a certain time, but they still exist. A similar, though less complete, reduction M. Taine makes with sensations of the other senses.

The same law, that every apparent whole of sensation is composed of smaller parts, and each of these parts of more infinitesimal sensations, imperceptible to consciousness, is true of them all. And the antecedents of these larger or smaller sensations are always certain molecular movements in the nerves, equally infinitesimal and imperceptible to the senses, known only by processes of reasoning. Of this physical, external fact the sensation is the internal substitute.

Having come here to the end of the psychological analysis, he changes his route and turns to physiological examination. He considers the organism of intelligence. He finds the immediate condition of sensations in molecular disturbances of the sensitive centres, i. e. the encephalon. Images are occasioned by repetitions of these molecular motions in the cerebral lobes, on entering which they become capable of persisting and of indefinite revivals and interactions. Reflex actions are occasioned by nerve currents transmitted, not to the sensitive centres, but only to the spinal marrow, and exciting fragmentary actions analogous to those which excite elementary sensations imperceptible to consciousness.

We find, then, that every mental event is accompanied by some physical change. What then is the relation of the mental and physical world? Inseparably connected as they are, yet the two series have nothing apparently in common. And however closely we study the two, we find them no more reducible the one to the other. The physiologist, relying on the constant connection of mental events with motions of the nervous centres, says that the first are but a function of the second. The philosopher, resting on the irreducibility of the two, says that mental events belong to a separate mental being. Cautious on-lookers interpose and conclude: Here is an insurmountable difficulty, let us be content to remain in ignorance. M. Taine, however, is not content to pause here. He believes that he can press further into the mystery. He says that the incompatibility of mental and physical events is on our side, — not on theirs. It is due to the different channels by which we gain knowledge of them.

One and the same electric shock, acting on the optic nerve, appears as a flash of light, on the acoustic nerve as a sound, on a nerve of touch as a blow. The different psychological appearances are due to the different routes by which the same event enters the mind. So when we examine the idea of a sensation and of a molecular movement, we find that they enter the mind by routes directly opposite, — one from within, without any intermediate; the other from without, through many intermediates. Being known in these two opposite ways, one and the same single event will appear double. The sensation and the molecular movement of the nervous system may be regarded, then, as at bottom one and the same event,— opposite aspects of the same thing. The difficulty of two separate things occurring always simultaneously and in mutual dependence, to account for which the philosophers of the seventeenth century, Leibnitz and Malebranche, had to call in the hypothesis of a pre-established harmony, is entirely removed.

Nature, then, has two faces. In the one the object is presented as it appears within, as it is known directly. In the other it is presented as it appears without, indirectly, by its effects, through its physical signs. Seen from the one side, nature has as elements events which we can know nothing of except when in extreme complication, and which in this state we call sensations. In the brain these are compounded into images and ideas. Beneath consciousness, they exist in lower and lower, simpler and simpler, forms. They are indicated by all reflex actions; they may be traced down in rudimentary form, the lowest point of the animal scale, nay, into the vegetable kingdom. There is no radical difference between animals and vegetables when looked at in this light. By pursuing analogies we may descend in the scale of beings. For the inorganic world is but a special case of the organic world, differing in degree, but identical in nature.

When seen from the other side, — the physical, — nature has as elements events which we can conceive clearly only when in a state of extreme simplicity, and which in this state we term molecular movements. As from the level of sensation mental events descend, decreasing in complexity; so from the level of molecular motion physical events ascend, constantly increasing in complexity, as we pass from the most elementary phenomena of physics to the highest operations of the cerebral lobes. Through the whole scale there occur, looked at from this side, only mechanical movements of atoms. What we term life is but a more delicate chemical action of more complex chemical elements. From base to summit the correspondence on either side is perfect. Phrase for phrase the physical event, as we represent it to ourselves, translates the mental event. (Book IV. ch. 2.)

And now that our events have been considered, what is the being they pertain to, which each calls himself. Philosophers usually conceive it as a subject or substance different from the various sensations, images, perceptions, recollections, etc., which correspond to it, and having for its distinctive qualities certain faculties or powers.

Every part of this conception Taine would throw overboard without ceremony. Power, force, faculty, substance, self, matter, — these are all metaphysical entities, pure phantoms begotten of words, and vanishing as soon as we examine rigorously the meanings of the words. Power and force and faculty denote no occult essence, but simply the perpetual connection between one fact which is antecedent and another which is consequent. When I say that a stream has power to move a wheel, I mean only that when the stream falls on the wheel the wheel moves. This property of the one fact to be followed by another is, however, set apart by abstraction and kept in a distinct state by a separate name till the mind, forgetting its origin, believes it to be independent and becomes the dupe of its own illusion.

With the fall of this illusion falls also that of self. For the powers of the self are what constitute it. The self, the one permanent substance, distinct from events, is seen to vanish and re-enter the region of words. All that remains of us are our events, sensations, recollections, images, ideas, resolutions. These are what constitute our being. Each of them is an element, fragment, extract of the Ego. Our successive events, then, are successive components of ourselves. The Ego is in turn each of these events. At one moment it is nothing more than the sensation of taste, at another nothing more than the sensation of suffering. These divisions, however, into different mental events, are purely fictitious, for the convenience of observation. They actually form a continuous web. We cannot say that it is the series of its events placed in succession, since it is not divided into events, except to observation. But still it is equivalent to that series. For if they were taken away nothing would remain; they constitute it. (Book IV. ch. 3.)

Having upset this entity at the summit of nature, there remains at the foot another entity, matter, which falls by the same blow. When analyzed there remain but movements, present, future, or possible, connected with certain conditions and determined with relation to certain points. Thus in the physical and in the moral world nothing remains of what is commonly understood by substance or force. *The notion of fact or event alone corresponds to real things.* Chemical body, material atom, self, that which we term a being, is always a distinct series of events, each event being the condition of another and having another as its condition.

We have no difficulty, then, in comprehending the connection between the human and the physiological individual. All we have now before our eyes is a series of events termed self, connected with other events forming its conditions. The web of facts which make up our being is a distinct district in the aggregate constituted by the nervous functions, this aggregate itself being a distinct province in the entire living animal. This series is to our senses a series of molecular movements, to our consciousness a series of sensations. In proportion as we descend the animal scale, we see it lose its domination and complexity and become reduced to the level of the others, while these in turn loosen their mutual connections and become insensibly degraded. To external perception, *they have all for condition of existence the integrity and renewal of the nervous system*, whose special activity they are; and the beings more or less strictly bound together, which they constitute, whatever they may be to consciousness, with whatever names metaphysical or literary illusion may clothe them, *are subject to the same condition.* (Book IV. ch. 3.)

Having thus disengaged and determined the primordial elements, the task is now, with their combinations, to construct the rest. We perceive, we recollect, we foresee, we reason, we form abstractions and ideals. How can we accomplish these things? Philosophers commonly say that we do these things because we have such and such faculties, memory, imagination, reason, etc. These are but verbal explanations, inherited from the schoolmen. These various actions are properly to be explained as transformations, by association or conflict of these mental elements, signs, images, sensations. Two principal processes are employed by nature to produce the operations we term cognitions; the one consisting in the creation of illusions within us, the other consisting in their rectification. As in his "History of English Literature," treating of Hamlet's madness, he maintains that all men are more or less insane; so here, in his philosophical analysis of the actions and knowledge of the mind, with the same itching after paradox he devotes himself to proving that the whole staple of the actions and knowledge of the mind is delusion. External perception, firstly, is essentially hallucination, — an hallucination generally resulting in truth, but still an hallucination. In every act of perception there are three steps: first, the antecedent, usually some external object; second, by the sensation, an internal semblance or phantom of the object; third, the affirmation or judgment. Now, for the third step, nothing is required beyond the presence of the second. Though usually excited by an external object, this intermediate element, sensation, may be excited by an image in the cerebral lobe, or by some molecular disturbance in the nervous centres due to disease. The affirmative judgment — what we call the perception — none the less follows. We call it then a case of hallucination. But as in all cases the presence of this internal semblance is the immediate antecedent, as it is only this internal phantom which is taken for an internal object, all perceptions are really hallucinations. The objects that we touch, see, or perceive are really nothing more than inward phantoms, precisely similar to those which arise in the mind of the dreamer. The only difference is, that in the case of the dreamer the phantoms do not correspond to external objects then present; in the case of perception, they do.

Again, every sensation that we experience we assign to a certain place, — in the foot, the hand, the cheek. But this is but an illusion, as is abundantly proved by surgical operations. When a foot has been amputated, tinglings will be felt for many years as if in the foot no longer there, clearly referred to distinct parts, the second or third toe, the sole of the foot, etc. Disease of the marrow excites tinglings in the extremities. When a new nose is formed by turning down a flap of skin from the forehead, and the nose is touched, it seems still for a long time to be the forehead that is touched.

Or again, when we hear a sound, we say that is outside of us, say a dozen yards to the right. When we see the red of a cloth, we situate that also externally to us. But science shows us that neither are outside of us. There are only three certain molecular movements which act as antecedents. By disturbing the acoustic nerve by a blow on the head, a ringing sound is heard; by setting the retina in action by pressure on the eyeball, or agitating the optic nerve by disease or by a cut, luminous figures, patches, or sparks may be seen. The real situation of every sensation, whether of sound, of color, of pressure, of pain, is never outside of us, nor even at the nervous extremity, but is always in the sensory centres in the encephalon. The localizing judgment that situates them in this or that spot of the surface, or even outside of us, is an hallucination, although it generally is practically correct, inasmuch as the molecular disturbance that is the antecedent condition is usually found to be there.

In the same way, the image, the second great element of intelligence, is hallucinatory in its nature. The image is the echo or revival of the sensation. The more complete it is, the more does it seem a veritable present sensation. In sleep, natural or artificial, when the rivalry and correction of true sensations are removed, the image develops a perfect hallucination. When we are awake there is a similar tendency of the image to excite an hallucination, but it is repressed by simultaneous sensations. As in every representation, conception, or idea, there is an image or images, and as it matters little whether the hallucinatory process be commenced or completed, the state of our mind when we are awake and in health may be defined as a *series of hallucinations which do not become developed.* "The hallucination which seems a monstrosity is the very fabric of our mental life." (Part II. Book I. ch. 1.)

M. Taine next considers the processes of rectification by which these hallucinations are corrected and reduced to proper order. Perceptions of one sense are corrected by contradictory ones of another. Images are repressed either by antagonistic sensations or by other images and convictions incompatible with them. Thus an hallucination by a stronger contradictory hallucination is repressed, and is made to constitute sometimes a recollection, sometimes a prevision, now an imagination, and again a perception corresponding to real things and events, and thus constituting cognitions. Thus by experience our senses are educated. Our sensations, originally simple states of excitation, telling nothing of place, gradually are referred to different localities, according to the places where the nervous disturbance which starts them is found to be situated. By the muscular sensations of the arm, foot, eye, we learn distance. By combinations of the idea of distance, and through simultaneous sensations of the hand or eye, which sensations by education of the senses seem to be situated in distinct and continuous points, we derive the idea of extension, attributing to the object the continuity of our own sensation. From these ideas of distance and extension, combined with the sensation of resistance, are easily derived all the other properties of bodies, — solidity, figure, surface, mobility, divisibility. External objects are thus, when analyzed, only internal phantoms, fragments of the Ego, detached from it in appearance and opposed to it by an illusion. This illusion, however, is not, as Kant taught, the effect of the innate and inexplicable structure of the mind, but of an acquired disposition instituted in us by experience.

But with so many illusions, is there anything real corresponding to them? What is left us in bodies when we have pushed our analysis to its farthest?

In the first place, we find that, though there is no sensation in the nervous extremity, still less any color or sound outside of us, yet that there are situated the starting-points of the molecular displacements which occasion the sensations. There are certain disturbances of the nerves, and certain variations and differences of the objects, which *correspond* to the sensations felt. The latter have an almost constant connection with the former. What we call a body, when examined, reduces itself to a collection of certain powers of exciting sensations within us, — sensations of heat, sweetness, figure, resistance, extension, etc. And when we say that a body has the power to excite a certain sensation in us, we mean simply that such a sensation is possible or necessary under certain conditions. The powers, consequently the properties, consequently the substance of bodies, Taine thus resolves, as Mill has done, into "certain permanent possibilities of sensations for ourselves or other sentient beings," but he adds to this the element that these possibilities become necessities whenever the sensitive organism is brought into all the needed conditions for receiving such a sensation.

But a body exists independently of our observation; it precedes and survives us. It remains unchanged when we change, and changes when we do not. Certain of its events excite certain changes in other bodies. The marble in motion displaces another marble. The heated stone evaporates water. Bodies come thus to be defined and considered, not in reference to our sensitive events, but in reference to their own, and in reference to those that they occasion in other bodies. But in these respects, also, bodies are still groups of possibilities or necessities of sensations, more or less permanent. All these properties exist in relation to events, of ourselves, the body in question, or other bodies; and all these events are defined in final analysis by our own events: they are more or less elaborated extracts from sensation.

Among these is there any one, Taine next inquires, which we may legitimately ascribe to bodies? Is there nothing intrinsic in bodies? Or are bodies indeed nothing more than a simple collection of permanent powers or possibilities, of which we can affirm nothing except the effects that they excite in us? Or indeed, as Bain and Mill, following Berkeley, think, are they pure nonentity, erected by an illusion of the human mind into substances and external things?

Having followed the idealistic path so unhesitatingly thus far, — having found nothing but hallucination in every process and result of the intelligence thus far, — the reader fully expects him to take the grand idealistic plunge through the empty shell of matter into the void inane beneath it. But here he suddenly and strangely pauses. He fears apparently to deprive science and physical knowledge of all solid foothold; and out of the vast field of phantoms and semblances to which he has reduced the world, he would, therefore, save a little tract which he may declare to be real and permanent. Though every other quality may be stripped from bodies, we are justified, he maintains, in believing that one quality, motion, still remains, and that it constitutes bodies independent existences. If all sentient beings were suppressed, bodies such as a stone, for example, would still exist. "And this does not merely mean that the possibility of certain visual, tactile, and other sensations would still subsist; it also means that the unknown things which we term molecules, and which make up the stone, would still subsist; in other words, that the movable motive-powers of which the stone is the aggregate would continue to weigh on the ground proportionately to their mass, and would go through the same internal oscillations as they do at present." (Part II. Book II. ch. 1.)

Thus do we gain our knowledge of body, and such is its reality. It is the same with the mind. Its unity and permanence is an appearance only. It seems to be fixed only because a certain common character, its inwardness, is constantly repeated. What we call self is but an extract from our various successive events, isolated to the mind by the oblivion of its connection with them, but actually nothing apart from them. Illusory in the metaphysical sense, it is not, however, in the ordinary sense. There is something corresponding to it, — something very analogous to that which, according to our analysis, constitutes the substance of bodies. This something is the permanent possibility of certain events under certain conditions, and the permanent necessity of the same events under the same conditions, with the addition of a complementary one, — all these events having a common and distinctive character, that of appearing as internal. (Part II. Book III. ch. 1.)

Our author next advances to the consideration, a second time and more fully, of general ideas and the process by which they are formed. They pass, he shows, through two stages. In the first the idea rises with the sign; it is as yet incomplete and vague. In the second it is rectified, and, by addition and subtraction, is made to correspond to its object.

There are other general ideas which correspond, not so much to actual things as to possible things, — the ideas which compose arithmetic, geometry, mechanics. These ideas we construct without having in view any real thing to which we seek to make them conform. These serve in arithmetic as preliminary outlines; in geometry, as models to which nature seems to strive to conform.

Next Taine considers how we form laws, general judgments, or propositions. They are formed by coupling together two general characters or ideas. Sometimes the two connected characters are simultaneous; sometimes one, termed the antecedent, precedes; the other, the consequent, follows. Laws concerning real things we learn by the various modes of induction, supplemented often by deduction. The laws of possible things are discovered by the deductive road. The propositions concerning them are not merely probable, but certain beyond our little world; at least, we are unable to believe or conceive that it is otherwise. The axioms and theorems of geometry, for example, are necessarily true always and everywhere. The contraries of them are not only incredible but inconceivable.

Here we have, then, the only kinds of propositions which are applicable to all cases, without exception. On their value depends the reach of human knowledge. What is their validity then? This depends on their origin. There are two principal answers. Kant and his school say that these propositions reveal to us, not a necessary connection of things, but simply a certain structure of the mind which does not allow us to conceive the ideas of these things except as so connected. Stuart Mill, starting from an opposite stand-point, arrives at a similar conclusion. These propositions are but truths of experience, — the summed-up impression left on our minds by things. Like all truths of experience, these laws then reach only to the establishment of a constant fact in the past, within the field of observation. Whether there is a connection between the things themselves, we are incapable of knowing. Taine differs, however, from both of these views. He shows that in axioms, and the consequences deduced from them, there must be a connection of facts as well as of ideas, because the two data are such that the first includes the second. The deduction is simply an analysis, which reveals parts and identities not expressly stated or clearly perceived, but which tacitly were included. Thus is established the necessity of the junction, not merely of the two ideas or hypotheses, but of the two facts or sets of facts, because the first, wherever it will be, will involve the second, since the second is a part of itself. Their connection, then, is not limited to the range of past or present experience, but is absolute and universal. (Part II. Book IV. ch. 2.)

From these considerations we may learn finally the nature of reasoning, the essence of laws, and the structure of things. When we have learned that a connection exists between two things, we are naturally led to ask, Why are they connected? What link or intermediate unites them or explains their union? In the discovery of this intermediate lies the secret of all demonstration, the key-stone of every law of nature.

Now this intermediate may be of many kinds. Sometimes it is composed of but a single element, sometimes of many; sometimes its components are successive; sometimes simultaneous; sometimes the component intermediates are similar in kind, sometimes different. But however these minor qualities may vary, the essential nature of the explanatory intermediate remains the same, i. e. that it is always shown to us as a character or a sum of characters included in the first datum of the couple; more general than that datum when they are considered apart, and accessible to our grasp from being comprised in it, and separable from it by our ordinary processes of isolation and extraction.

Take any law requiring demonstration. It is composed of two data. The first datum is more complex than the intermediate, and contains it; the intermediate, again, is more complex than the last datum, and contains it. Thus the mind is carried on from the first to the last datum, and the two are coupled by means of the quality found to be common to them both. In the sciences of construction, of pure thought, we can discern easily this essential nature of demonstration. Every theorem is an analytical proposition. The proof consists in a process of analysis by which in the first datum, a collection of primitive factors or elements, there is found included a character which, either directly or through the mediation of more intermediates, includes the other datum and couples them. In the sciences of experience it is the same, though the difficulties of the process are much greater. It is not sufficient here to consult simply our conception of the first datum of a couple, and by reflection analyze the group into its elements. We are obliged to go outward into nature, and by laborious and lengthy processes of nature learn what are the elements or factors of our first group, before we can find the intermediate character by which it is attached to the other group. But when induction has discovered the properties of the factors, we can go on with the work of demonstration as in the constructive sciences. Whenever we are able thus to isolate and observe the elements of a compound, we can from the properties of the elements explain the properties of the compound, and from a few general laws deduce a host of particular laws. At a certain limit, to be sure, explanation is brought to a full stop. When, in this progressive decomposition, we arrive at compounds in which our consciousness, senses, and instruments are unable to discover simpler elements, explanation is at a stand-still and is reduced to conjecture. Every science meets these limits. Such are the elementary sensation, the living cell, the chemical molecule, the ethereal atom. But though the explanatory intermediate is too minute or obscure for us, with our present means of observation, to detect it, we yet believe that it exists. There is, we are persuaded, a reason for every connection of facts, a reason for every law, — for the laws concerning mental compounds, as for the laws concerning real compounds; for the formation as well as for the properties of a planet or of a species. Questions of origin are but questions of what combination of properties will produce a certain effect. Besides indicating the existence, we can indicate beforehand the position and principal characteristics of the intermediate which still escapes us. It is a simpler and more general character than the first datum of the couple; it is included in that datum and appertains to its elements, and the properties of that datum, as well as its origin, have as their ultimate reason of existence the characters and previous state of its ultimate elements.

On these indications the thought flies off to extend this structure of things beyond our world and history, throughout the two gulfs of space and time, beyond all the distances to which imagination can attain, beyond all the confines which numbers or quantities fruitlessly swollen and heaped together can denote to the pure reason. Are we justified in acting thus? Taine boldly declares that we are. The further our extended experience drives back our horizon in space and time, the more explanatory reasons do we add to our store. Constantly we are filling up. Added to the probabilities afforded by these considerations is the positive proof given by the very nature of the relation of a subject to its attribute. The subject always includes the attribute, as a fragment, extract, or abstract of it. Hence, whenever two things are connected together, there must be an explanatory intermediate more general in character than the first member of the couple and included in it.

From this follows the proof of the principle on which induction rests, and also the axiom of causality. From this many other consequences flow, leading us, if we will pursue them, up to the idea of existence itself and its elements and conditions. But as this would pass beyond the field of cognitions into that of metaphysics, M. Taine here ends his inquiries.

Such is the substance of M. Taine's philosophy. We have not been able, of course, to give any idea of the abundant illustrations and examples which at once enliven his exposition and sustain his argument. We have not been able to exhibit the width of his researches, or the polish of his style. We have been compelled to give in abstract terms a brief summary, which, despite the rigor with which we have compressed it, is still perhaps too long.

But thanks to M. Taine's admirable method of summing up at the close of each chapter the results therein reached, we are able to say that our account is given almost entirely in M. Taine's own statements.

Our readers can now see for themselves how subtle are his analyses, how bold, original, and ingenious is his system; how logically his conclusions flow on from one fundamental assumption to another. In these respects and many others, it is admirable.

His chapters on the nature of the reduction, revival, and obliteration of images; on illusions and their rectification; on the abstract ideas of geometry, arithmetic, and mechanics; and on the laws of possible things, — are highly to be commended. We can but commend, also, his design of securing aid for psychology in her perplexities from that rich quarry of natural science where so many treasures of knowledge have already been found, and more still, we believe, are to be found. But having gladly said thus much of praise, candor compels us to say more of blame.

His originality has been purchased, in great measure, by the sacrifice of what we deem the most precious truths. His boldness seems not seldom like the mental escapades of one who has thrown off regard for soberness of statement and the fundamental laws of thought. The assiduous attention which he has given to the observation of bodily conditions and external facts seems to have disqualified him from realizing fully pure mental or spiritual phenómena, as they exist in their simplicity, falling under the eye of consciousness. In his favorite École de Médecine he has studied mental disease till he finds nothing but hallucination anywhere.

Perception, imagination, memory, extension, — each of these is an hallucination. Abstract ideas, personality, force, faculty, — these are but illusions of the intellect, mental fictions which everybody foolishly constructs.

Instead of M. Taine's treatise being designated "On Intelligence," it should be entitled "On the Illusions of Intelligence." It is not so much a system of psychology that he gives us, as one of mental pathology.

The fact seems to be that M. Taine has a most palpable and dangerous penchant for paradox. Whatever will astonish, he longs to prove to be true. Whatever belief common-sense trustfully rests upon, he is filled with the most ardent longing to knock from under it. That a notion is repugnant to the general opinion of mankind or condemned by current authorities is enough to make him embrace it with open arms.

This passion for paradox it is, more than any other one thing, which accounts for the various peculiarities of his system. This it is that renders every one of those ancient and fundamental ideas, self, matter, substance, cause, power, a *bête noire* to him. This it is that makes him labor to detect some delusion or mental phantom at the bottom of every intellectual process. This it is that, on the other hand, excites in him the ambition to restore to the external world that reality, to deduction that actual truth, and to the reign of law and reasons that universal empire, that the most eminent masters in contemporary philosophy had agreed must be stripped from them.

The reader is strongly tempted to believe that, if M. Taine had happened to live in an age or a country in which his own views had long ruled, he would have attacked them as rigorously as he now does the opposite doctrines.

It is easy for us to say in general that M. Taine's views are unsatisfactory to us. The reader will desire that we show in particular where and why they are so.

Let us take up, briefly, some half-dozen of his principal positions, and it will not be difficult to show that they are as objectionable to sound logic as to common-sense.

In the first place, let us consider M. Taine's views of abstract ideas. He maintains that properly there are none, but merely abstract *names*, which present themselves at the stimulus of the slightest individual likeness. There is in the mind at most but a general tendency urging an expression.

If this be so, we are at loss to see how an abstract name can be intelligently and consistently used. An abstract name, as Taine himself says, represents a precise and fixed character. There must be in the mind, then, something more than a general, vague tendency to expression; there must be a precise and fixed idea, the inward counterpart of the outward character.

M. Taine objects that of such a precise and fixed character, common to all various individuals of a class, we cannot have either perception, experience, or sensible representation. We grant this. But though this general character cannot be perceived or imaged as a separate thing, yet it can be *conceived.* The intellect can construct and determine it in thought through the various attributes, properties, or relations which are its elements.

The name, it is true, is very important in rendering the idea permanent and helpful. After we have become familiar with the name, we may, to be sure, often use it without referring back to the idea which formed it. Without language it is difficult to reason either exactly or rapidly or lengthily. But the abstract idea as necessarily preceded the formation of the word and established its use as the nerve-current the motion of the tongue. If there was no mental operation to separate and fix the elements which the word stands for, the word would symbolize nothing, and hence be as meaningless as the chatter of a parrot. M. Taine's position implies that there can be no thought without words. The fact is, however, that there can be. Experience with deaf-mutes who have acquired little even of the language of signs proves this. These show by their actions that they generalize, i. e. form concepts, to a limited extent. They classify and arrange observations; they analyze and compare attributes; they apply principles in deduction, infer them from data. Even infants, too young to talk, manifest the possession of general ideas. We have repeatedly seen one picking out from a heterogeneous heap similar objects and placing them together. Once noticing a cat holding a mouse in its mouth, the child was asked where the cat had the mouse, and she pointed at once to *her own* mouth. Even many brutes, such as the dog and the horse, must have, it seems to us, general notions. How can we conceive, as a writer in the Spectator once asked, that a sheep-dog which did not know the species as well as the individual could get along at all in his professional life ?

Secondly, in regard to sensation, we cannot consider M. Taine's analysis of the unit of sensation into minuter unconscious sensations as at all a logical deduction from the phenomena that he instances.

We are aware that there is unconscious cerebration, that there is unconscious reflex action, but it was left for M. Taine to discover unconscious *sensation.* It seems to us a contradiction in terms. A sensation is essentially something felt. When it is not felt, it does not exist. There may exist the physical condition of a sensation, there may exist the nervous vibration which ought to excite a sensation ; but if these do not excite any conscious experience, there is then no sensation, properly speaking. When small separate vibrations, which given slowly are either not perceived at all or produce only noises, give rise, on being repeated in very quick succession, to a continuous musical note, it is not necessary to infer, it seems to us, that these were unconscious sensations which were fused together into a larger whole capable of conscious experience. It is much more likely that the fusion took place among the nervous *vibrations* anterior to any excitation of sensation. M. Taine insists that sensation does not take place until the vibration has travelled along the nerve clear to the nervous centre. Here is place and time amply sufficient for such fusion, — place and time where it is more likely than not that it would take place.

Thirdly, we fail to see the justice of characterizing the fabric of our mind as essentially *hallucination.* We do not deny that images often develop into hallucinations. We do not deny that there is more than one illusion connected with the process of perception. But M. Taine himself shows how images are always prevented when awake and in health from developing into delusions. He admits that the practical results which perception attains are in almost all cases correct. It fails, indeed, only when its action is distorted by loss of limb or by some physical or mental disease. M. Taine admits also that these illusions which attend perception are nothing innate, but are instituted in us by experience. They proceed from the education of the senses. Moreover, the erroneous localizing of the sensation in the nervous extremity, instead of in the nervous centres, is not a thing properly to be laid to the charge of the much-abused perceptive faculty, the sphere of which is the knowledge of the non-ego, but it is due rather to M. Taine's pet faculty, — sensation itself. Making the subtractions required by these considerations, there is little left, it seems to us, to justify M. Taine in calling perception *fundamentally an illusion*, at best an honest illusion, or in designating the image and all the rest of our mental operations as *undeveloped hallucination.* Such a characterization is defining the rule by the exception, — the result by a single step, — the essence of a thing, not by its original characteristics, but by its acquired properties. If we imitated it, we might, with equal justice, call man fundamentally an undeveloped idiot, a calf an immature monstrosity, a saint essentially an honest sinner.

We are comparatively willing, however, to surrender the perceptive and imaginative faculties to the yoke of illusion which M. Taine would hang round their necks. But when he proceeds to banish the substance both of mind and matter to the same limbo of unsubstantial ghosts and lying delusions, we must vigorously protest. The doctrine of substance is the keystone of every system which gives genuine reality to the inward and the outward world. Hence M. Taine hurls it down with contempt as a baseless fiction of the mind. Having pulled out the centre stone of the arch, it is very easy to demolish the rest. Power, cause, self, and matter, as they are each of them but substance of various kind or acting in equally various ways, are equally devoid of real existence; air-castles which every mind, by some strange Nemesis, invariably builds up, and then becomes the dupe of that which it itself created.

Now we would ungrudgingly grant that substance is not a thing perceived by the senses. It is a mental apprehension. But it is not a fiction. It is an honest intuition. The fact that it is instinctively and universally believed in bespeaks its truth.

On perceiving the various relations, properties, attributes, of an object, especially when perceiving these constantly repeated, the mind necessarily conceives a substance, a permanent being possessed of power, which holds these relations, to which these properties belong, in which these attributes inhere. For these qualities imply such a substance. We cannot separate length from something which is long, nor color from something which is colored, nor thought from a thinking being. And the substance of an object does not signify merely an assemblage of certain attributes, a series of certain events, a group of certain relations, but it is that permanent being which is the cause and the bond of these various attributes, events, and relations.

If there be no substance to mind or external body, but the one is a mere series of simple or transformed sensations, the other a loose group of possibilities or necessities exciting sensation, how are to be explained the constant connection and repetition of the same sensations; the persistent association and endurance of the same possibilities of sensation? Especially how is to be explained the fact that even when change in these takes place the permanence of certain elements is maintained amidst the greatest diversity?

We assert that this constant connection requires a constant bond; that the permanence of these effects demands the presence of a permanent cause, an enduring being possessed of power, — in other words, a substance.

If it be said that this necessary implication of thought does not imply a necessary implication in fact, we answer that, whether or not this last plea is itself sound, it is not open to M. Taine, because, in his chapter upon deductive reasoning, he expressly maintains that invincible connections of ideas imply a necessary connection in actual fact. If it be said that this substance is necessarily a thing unknowable apart from its attributes, we answer, that, though in fact the substance is indivisible from its attributes, in thought it must be distinguished. Though it is not known apart from its attributes, it is known *through* its attributes; and the attributes and the substance stand in such a fixed and indissoluble relation that the knowledge of the one enables us to know the other.

If the real existence of substance must be maintained, as we believe it must, that of mind, matter, force, and cause necessarily follow. For mind is spiritual substance; matter, material substance; force, the energy of substance; cause, this energy producing effects.

For the existence of the self as a permanent, indivisible, identical being, we have the direct testimony of consciousness. It is a travesty upon the nature of the Ego to call it nothing but a series of sensations, images, and thoughts, the special activities of the nervous centres.

The mind is conscious of itself, not as a sensation or series of sensations, but as an existence present with every sensation, the being who *experiences* the sensation. The experience of the soul is not that at one moment it is an act, at another a pain, but that it is a being who acts and who suffers pain. Moreover, the fact is not merely that the soul, at the second moment, experiences a repetition of a similar effect, i. e. the inwardness of the state, but that the soul knows itself as still continuing one and the same being. Our states of course change, but the very conception of change implies the conception of an unchanged permanent element; otherwise it would be no change, but the annihilation of one thing and the substitution of another. M. Taine, indeed, does not hesitate to advance to this conclusion. He unequivocally declares that when the series of our mental events ceases to exist, nothing remains of the mind or Ego. After profound slumber, then the awakening to consciousness would actually be a new mental birth or creation. What makes us imagine, says Taine, that it is the one and the same soul that still endures through the variations or interruptions of our mental states, is the constant repetition of a similar mental quality or qualities, owing to the constant renewal of the same physical conditions. In answer to such an astonishing assertion, we can only declare flatly that this is not a true analysis of our mental experience.

The testimony of consciousness is that after sleep we are no new existence, however similar, but the same identical existence. If it be not, how can we rely at all upon the veracity of memory?

If there is no continuity between the self of to-day and the self of yesterday, how can I reason from the present recollections of the second self to the experiences of the first self, or from the past experiences of the first to the present experiences that the second would now receive?

And as we maintain the existence of spiritual substance as an enduring operative being, directly known by the mind, so we would maintain the existence of material substance and of force. The mind directly knows material substance, as a permanent existence occupying space and causative of specific sensations in the sentient soul. The mind must know something more of matter than certain sensations excited in us, from which we assume the existence of certain possibilities or necessities of sensation. We should separate its agency from the agency of the mind, and assign to it its attributes of extension, solidity, action on the senses, etc.

So also do we know force as a something more than a mere particularity of one fact to follow another. We are conscious, in our own exercises and receptions of it, that there is effort in it, causal efficiency; that there is not merely an observed sequence of two events, but that there is an activity or energy, in the first of which the second is a necessary consequence, provided there is no preventive condition. We were quite surprised to see one so full of the spirit of physical science reject an idea so fundamental to it, and of late so fruitful in its rewards to the physical investigator, as the idea of force. While Herbert Spencer would find no real existence behind phenomena but force, and Tyndall does not conceive he had reached an adequate explanation of phenomena until he has arrived at some permanent force; while Büchner and his compeers on the other side of the Rhine are crying out that force and matter constitute the only infinite and suffice to explain the universe; — Taine maintains that it is but a mental fiction. Perhaps we may leave to one party the task of answering the other.

It is with a feeling of relief that the reader, having been led down and down, finding every foundation on which he would rest his foot an empty bubble, is at last allowed to stop just as he is within a hair's breadth of the abyss of total unreality and nothingness, and his footsteps are thenceforth directed upward. This latter part of M. Taine's work, in which he turns from the picking to pieces of what others have believed in, to try his own hand at establishing some realities, is much more satisfactory to the sober-minded thinker than the progressive iconoclasticism which constitutes the first part. But, unfortunately, the two portions fit ill together.

The consciousness of the ruin which his analysis has already wrought among the fundamental ideas with which synthetic philosophy usually builds, prevents him from giving the best support to the positive reality and knowledge that he would vindicate; and even the foundations on which he does lay them can be regarded as sound, only on condition that much of the destructive work which preceded it be pronounced unsuccessful. M. Taine seems to take great pride in this second part of his work, in his establishment, against John Stuart Mill, of the reality of bodies and the universal validity of deduction and the explanatory reason. He has seen, what Mill either did not see or did not regard, that scepticism of these things takes from physical science all its certainty and value. But Mr. Mill is plainly the more logical of the two. If Taine had followed out his premises with the same rigor that the English metaphysician did his, he would have ended in the same sceptical idealism. For instance, consider the objective reality which Taine vindicates for bodies. In addition, he says, to the possibilities or necessities of sensation for sentient beings, there exists in bodies such as a stone, and there would still exist if all sentient beings were destroyed, the *molecules* which make up the stone. But what does M. Taine mean here by molecule? In the ordinary scientific conception of the word, it implies a minute quantity of matter and of force. But we may conceive it by either one of these attributes without the other. We may say that force is a mere quality or mode of action of matter, and hence a molecule is essentially matter; or, on the other hand, we may say that the conception of a centre of force is entirely sufficient to explain all the phenomena of the molecule, and that to clothe it with matter also is superfluous. But one of these two attributes, either that of matter or that of force, is essential to enable us to conceive a molecule. Yet M. Taine has rejected them both. What then is left to constitute this molecule which is the ultimate reality of the universe?

Taine explains it first by saying that he means by the molecules of a body "the movable motor powers which weigh on the ground, and which continue to go through with the same internal oscillations"; and a little further on he designates as the ultimate objective realities "the motions of the body," "the series of events which tend to accomplish themselves." Power, weight, tendency, motion, — these, then, are what constitute the real world. But the first three of these, — power, weight, tendency, — are not these the old nonentity, force, under very thin disguises? Finally ridding ourselves of him, let us see what we have left. Plainly motion, and motion alone. Motion, with nothing to be moved, no force to start it or sustain it, no space in which it may occur.

Surely, here is the most spectral and unsubstantial foundation on which philosopher ever attempted to base a world of real existence.

Moreover, with what legitimacy or consistency does M. Taine refrain from driving the axe of his analysis through this last straw of the common-sense belief in objective reality, and showing it to be but illusion, as he has through all the rest? He has already branded all the sensible properties of bodies, such as color, extension, form, solidity, as mere phantoms, extracts of the Ego more or less elaborated, altogether subjective in their character, and known only by a process whose essence is hallucination.

But is not the idea of motion equally an extract from our subjective experience, an idea derived solely from our sensations and by that same hallucinatory process, — perception? M. Taine admits it. Why then is this to be credited with objective reality, while the former are not? The only reason that Taine seems to have, is the necessity that he feels there is for some solid foundation for knowledge, and the very slight degree of subjectiveness and illusion that alone is left in the idea of motion. But logically the slightest tincture is as fatal as the fullest dose, and Taine ought no more to have granted objective existence to motion any more than to matter, force, figure, or space. Indeed, the first implies the rest. Where there is motion there must be something to be moved, something to start the motion, some space or extended thing between two separate points of which the motion can take place, and finally some line or figure described by the motion.

Logically, M. Taine ought to have gone on, and, with Mill and Bain, denied us any knowledge of an external world independent of us, or he should have halted while he still had something satisfactory to stand upon.

A similar inconsistency M. Taine is betrayed into in his exposition of the explanatory reason and of induction. He essays to establish for them, as we have said already, universal validity. When two objects are connected, there is always a character included in the one which includes the other.

Every subject includes its attributes. Therefore the presence of one general attribute which is known involves the presence of another as yet unknown one. Hence there is a reason, a law for everything, universal and invariable.

Now, this proof seems to us valid only on one condition, i. e. that the various attributes of bodies have some real connection. If they are bound together by their inherence in a common substance, if they are united by their origin as common effects of a common cause, if event is linked necessarily to event by some compulsive force, then it will of course follow that the presence of one attribute of a group or a series is a sufficient guaranty of the presence of the other. But if the ideas of substance and force be rejected as mental fictions, and cause be regarded merely as antecedent condition, as they have been by M. Taine, then the attributes of a body become only a loose bundle of facts, its successive states a mere unconnected series of possibilities. There remains no longer the slightest reason why the presence of one of these discrete phenomena should at all involve the other.

Possessing no deeper common being or inherent link to keep them together, but grouped by some chance, there is no reason why in another solar system, as Mill supposes, nay, in this present world at our very next observation, the qualities of bodies may not present a radically different association.

The fact is that there is no adequate foundation for the process of induction and the universal reign of law, except in the intuition of the principle of causality. Induction assumes the reality of causative power as necessary to explain the origin of all phenomena, and it implies that the various properties and events of bodies are necessarily connected together by underlying substances and forces. The process of deduction may perhaps be explained by resolving the relations of content into those of extent, and taking as our guide the maxim, "whatever is a part of a part is a part of the whole." Sir William Hamilton preceded M. Taine by many years in proposing this. But when it is sought to extend this method of proof to induction, it manifestly is unequal to sustaining the load laid upon it. Even deductive reasoning is not fully explained until the relations of quality and the distinctions of attribute and substance, cause and effect, are taken into consideration. As an acute thinker of our own country has remarked in a work which ought always to keep his name high on the roll of philosophical authorities, "We are able to give reasons and to support our knowledge by reasons, because we believe the various objects and phenomena of the universe exist and are produced in dependence upon one another. In cases of reasoning where actually existing things with their causes and laws are not concerned, it will be found that their relations, whether mathematical or logical, are treated or regarded as causal agents, constituting elements or operative laws, and as in this way involving necessitated or logical relations." (Porter's Human Intellect, p. 449.)

To sum up our criticism of M. Taine, we should say that his great faults as a psychologist were these three: He slashes too freely with his undoubtedly keen analytic knife; he relies too exclusively upon the external observation of physical science; he distrusts too much the simple testimony of consciousness and universal spontaneous belief.

The lancet of the mental dissector may often discover many unsuspected elements, but for the most part dissecting consciousness is like dissecting the material brain. The most characteristic and vital qualities change and disappear before the bungling knife reaches them; and often, while the operator is cutting away, or thinks he is cutting away, some diseased or abnormal part, he destroys the most essential structures.

We regard the discoveries of the anatomist and the physiologist as of great value to the psychologist. The mental philosophy which at the present day despises and ignores science marks itself as bigoted and absurd. The immense revolution which has taken place in the prevalent theories of sense-perception since the application of physical investigation to the solution of its problems is sufficient to vindicate a place for it in mental inquiries. But its proper place is a subordinate one. He who takes it as his sole or chief guide will fall into many errors. It is a general truth never to be ignored, that phenomena of one order can never be correctly interpreted by laws of an essentially different order. The physical inquirer, moreover, has this special disadvantage, that he can approach mental phenomena only from the outside. If our eyes could pierce everything, it would matter little at what point of view we took our station. But we have only a limited view; we walk in the world as between opaque walls. And when with the microscope and the scalpel we seek to study the mind, we can reach only its dwelling or instruments, the nerves and brain. We may trace the course of afferent and efferent nerves, and time the vibrations as they pass along; we may learn the varied structure of sensitive centres; we may behold the cerebral lobes contract and expand; we may mark the effect upon their action of nutriment and exercise, lesion and disease,—but still we are far from having entered at all the arcana of the mind. Even if, by some new optical instrument, we could gaze into the very centre of the brain, and instead of the inductions and probabilities, which are all that we now possess, we could behold every minutest part and the phases of its daily history, the passage of every nerve current and the spinning of every molecule, we should still be on the outside of the mind, we should still have, not sensation but motion, not mind but matter. None of these physical facts are mental processes. They do not constitute them. They cannot be found in them by analysis. There is no evidence sufficient to show that they even produce them. They are but their usual concomitants or conditions. The physical antecedents might all be supposed to exist and act without the occurrence of a single conscious experience. The material and the mental events usually, indeed, stand in relation; but there is nothing in this usual relation that involves its necessity, still less the identity or equivalence of the two orders of events.

Now, if this chasm which always separates the physical from the mental, and allows physiological observation only a view of the soul's dress or tool-box, — never of the soul itself, — be borne in mind, much profit may be derived from such studies. But the tendency always is towards forgetting, or towards a bold push, such as M. Taine has made, to bridge the gulf. The higher ideas and faculties of the soul are traced down into the lower; ideas into images, images into sensations. Able to perceive from the outside only the succession of events or their relation to their physical conditions, they are naturally led to regard these as constituting their whole character. The bond of personal unity will next be united by some analytical legerdemain, and the mind left a surface series unsupported by anything. The pillars of substance, force, extension, etc., are next taken from under bodies, and the material world becomes a realm of shadowy oscillations performed and originated and taking place in nothing. Having thoroughly disorganized both the realm of matter and of mind, and having made the reader's brain dizzy with contemplation of the universal motion which is all that is left of the solid globe, it is not difficult to slip him over the chasm before he perceives it, and persuade him that a motion and a sensation, an idea and a molecule, are only two faces of one and the same thing. Henceforth all is smooth sailing, inasmuch as the whole of psychology becomes now properly what Auguste Comte called it in his "Positive Philosophy," "a simple subdivision of animal physiology."

If the one step, the identifying of motion with sensation, be legitimate, all the rest is sufficiently so. But if that step cannot properly be taken, the chasm remains, the whole process must be condemned. And we must say that M. Taine has failed in this one essential step. The only proofs that he offers are the analogy of the difference of sensations according to the route that they enter the mind, and the existence of unconscious, rudimentary sensations which he had before essayed to establish. The latter we have already shown the illogicalness of; the former merely suggests, but proves nothing. The words "mental" and "physical" mark the widest distinction known to us in nature. Phenomena of the one order are entirely unlike phenomena of the other.

Though constantly related in all human beings, they stand as constantly in sharp antithesis, as well in their simplest as in their most complex forms, at their nearest points of contact as at their most remote divergences. "Between the idea of a motion and the idea of a sensation," says Tyndall, "there is nothing in common." "No exertion of thought," says Herbert Spencer, "can enable us to conceive either of these ultimate elements as convertible the one into the other." But if, as Taine tells us, thought is but vibration seen from within instead of from without, why does it thus vigorously repudiate any identity with its other side?

The fact is, that we cannot study the mind successfully unless we take consciousness as our chief instrument. That alone gives us the inside view, the immediate vision. In its crude, unrefined form, as the ignorant, unreflecting mind apprehends it, its testimony may perhaps mislead. It may need to be sifted. It may need to be tested, assisted, magnified, as Taine says; but when its strict and pure deliverances are ascertained, we can never have too much of them; we can find no source of information which can give us a more direct and more intimate knowledge of the mind. If consciousness needs the assistance and connection of physiology to attain a true knowledge of the mind, still more does the physiologist need the help of consciousness, and a firm trust in it. To find the very problems to be explained or the simpler mental elements which he would resolve them into, he must resort to the interspection of consciousness. No unconscious action or connection of actions can, of themselves, tell us anything of the conscious states of the soul. A true philosophy must not only start with consciousness, but will consult her at every turn; and whenever it finds itself offending her deepest instincts, it will know that somehow it has missed the right path.

JAMES T. BIXBY.

ART. VI. — *The Service of the Poor.* By CAROLINE EMELIA STEPHEN. London and New York: McMillan & Co. 1871.

THE title alone of this remarkable book does not give a correct impression of its contents. The title-page further announces it to be "An Inquiry into the Reasons for and against the Establishment of Religious Sisterhoods for Charitable Purposes." This amplification reveals the real task which the authoress has set herself, namely, a very close examination of the respective merits of religious and secular establishments for ministering to the sick, in the course of which she gives a history of the principal charitable sisterhoods on the Continent of Europe and their work, comparing the results with the experiment of a nurses' training-school, which is her example of the secular system. To find the most efficient method of relief for the poorer classes is a problem which has had so large a share of public attention of late years that an able book upon any subdivision of that subject is a valuable acquisition; and Miss Stephen has given the various modes of charitable succor of the sick thorough investigation, and weighed them with admirable clearness and judgment. But it is in its bearing on the more exciting topic of religious retreats for women that we think her work of most importance and interest. So much enthusiasm, romance, party spirit, personal feeling, and other emotions, both of a higher and lower nature, invest the question of sisterhoods, that great confusion has ensued as to the outward frame-work and inward spirit of such societies, while a sort of agitated interest in them is constantly increasing. In this country, where the interest is wider spread and more feverish in proportion to our ignorance of the nature and results of such communities in places where they have had time to take root and bear fruit, mere statistical knowledge alone would be of immense use, and a careful, comprehensive, impartial consideration of the subject of invaluable benefit to a very large class among us. Miss Stephen has, therefore, done a great service to the Christian, the civilized world, — and peculiarly to our portion of it, — in giving us what she calls "a fuller knowledge of the facts of the case," and a keen, profound, dispassionate — too dispassionate — inquiry into its moral phenomena. Moreover, as a contribution to general literature the book deserves a very high place; it is a solid octavo volume of three hundred and fifty pages, whose accuracy of information, laborious collection of materials, judiciously condensed, earnest thought, sustained argument, vigorous, lucid, and agreeable style, make it, in all respects, a capital performance.

Miss Stephen begins her Preface by the incontestable position that "some kind of organization is necessary for providing a supply of trained women for works of charity, and for directing them when trained in the performance of such works." She distinguishes between the two bases of such organization as religious and secular, using the terms as representing respectively systems whose purpose is primarily the spiritual benefit of the performer or recipient of these works, and those whose ultimate object is charity. The first demands allegiance to some religious denomination as indispensable to membership of the association, and exacts the gratuitous service of all its members; such an association is called a "sisterhood." The other necessarily involves no such conditions. "Works of charity may be roughly divided into the three branches of teaching, nursing, and almsgiving." The first and last are dismissed, the former as a settled question, — settled in favor of secular institutions, — the latter as so unsettled that it is impossible to consider it in its present state; therefore, the only one to be examined is nursing. Miss Stephen illustrates her idea by reference to five sisterhoods, ancient and modern, Roman Catholic and Protestant, with an account of the Liverpool training-school for nurses, as an example of a purely secular establishment. This forms the first part of the book.

The first instance of a religious and charitable association among women is the female diaconate of the primitive church. Very little is known about them; they seem to have been the object of constant opposition from their first appearance, and to have exhibited very early some of the most marked features of monastic institutions, namely, perpetual vows, celibacy, addiction to penance and mortification, and reversion of the members' property to the religious establishment to which they were attached. They were suppressed in the Western

Church about the sixth century, in the Eastern about the twelfth.

The second example is the Béguines. They took their rise in Flanders at an obscurely early day, — during the seventh century, they say themselves; there is authentic mention of one at Vilvorden as early as 1065. In the following century they began to expand, and during the thirteenth, which has been called their golden age, they spread all over Europe. "Their original object was avowedly, not the performance of works of charity, but mutual perfection and the cultivation of spiritual perfection." They included men as well as women, the latter being always widows or blameless maids, who renounced the cares and pleasures of the world to devote themselves to a better life, reserving, however, the right to return and even marry. At first much liberty was accorded them; even in towns where a Béguinage, or house of the order, existed, they were permitted to live in their own homes, wearing the dress, frequenting the religious services, and sharing the duties of the members. In the fourteenth century abuses compelled them to put an end to this privilege. Originally, no age was fixed for admission; even children were received and wore the dress, although not allowed to take the vows or be considered members until reaching the age of fourteen; later, in consequence of the volatility of these youthful votaries, the age was fixed at forty in some places; it now ranges from eighteen to thirty, but is not made a point of. They managed their property at their own pleasure; but if a sister was expelled for misconduct, she forfeited what she had brought with her; if a novice withdrew without scandal, she took away what she had brought, paying a moderate sum for board. But if she had completed her novitiate and assumed the dress and pledges of the order, she was obliged to leave the greater part of her property to the society. This clause was so unpopular and gave rise to so many difficulties, complicated by the semi-secular constitution of the society, that it seems to have been one cause of the persecution which overtook them, reaching its climax under Popes Clement V. and John II., who issued edicts for their suppression, and confided the execution to the Inquisition. Under this oppression they sought the protection of the powerful monastic orders, and some of them adopted the rule of the Franciscans, others of the Dominicans. Under this storm the brotherhoods disappeared entirely, and most of the sisterhoods. Belgium subsequently became their head-quarters, and I believe it is only there that they are to be found at the present day. Their principal seat is Ghent, where there are two establishments, the Grand and the Petit Béguinages.

In the beginning the members lived together in one building, according to the custom of most religious communities; but by degrees the system of separate dwellings grew up, and the Grand Béguinage is a mimic city, with its miniature houses, its church, infirmary, streets, gates, and outer walls, in the heart of the old Flemish town. There is the residence of the Groote Jufrow (Great Maiden), Grande Dame, or Superior-General, the head of the community; there are the convents, eighteen in number, each with its own superior, where the Béguines live for the first six years, and permanently if they prefer it, the home of the poorer members who cannot find room with sisters who are better off; there, also, are the hundred and odd tiny brick houses, with their respective court-yards shielded by solid wooden fences from the small straight streets. Those able to afford it can thus live by themselves, sometimes hiring a *bonne* to do their errands and household work, sometimes taking in a poorer sister or two as lodgers. Applicants for admission must bring a certificate of irreproachable character and good conduct; as every inmate must live at her own expense, she must likewise show that she has a yearly income of one hundred and ten francs (less than twenty-five dollars), besides which on entering she is required to pay about as much more, to be divided equally between the church and her convent, for repairs, etc. These sums are paid in three instalments during the two years' novitiate, and are restored to the novice if she leaves the Béguinage. Those who have no further resources are obliged to work for their own support; the favorite industry is lace-making. "Each Béguine has a fortnight's holiday in the year, and may, in case of the illness of any of her relations, obtain leave of absence for any length of time, even for years, if she is wanted at home. The sisters living in separate houses may receive their near male relations, fathers, brothers, uncles, for three days, or near female relations for a fortnight at a time, in their own houses. . . . . The sisters living in separate houses are free to go in and out of the Béguinage as they please ; those living in convents must ask permission of their superior. I inquired particularly whether the sisters were at all employed as nurses or visitors among the poor, and was told that this is not considered as any part of their ordinary business. . . . . The sisters also have a free school for poor children in the Béguines ; and in times of public distress, such as war and epidemics, when the other sisterhoods are not numerous enough, the Béguines form a sort of army of reserve, and act as Sisters of Charity." The rule of the order, Miss Stephen says, is never shown. She quotes Mosheim's account of the Béguinage of Strasburg, which says that the vows consisted merely in a promise of chastity and obedience, and were not perpetual; but when the writer of this article visited the Grand Béguinage, in 1871, it was admitted to her that a sister who left the community, after taking the full vows, was not well thought of. Their daily devotions, public and private, occupy about six hours a day.

The superior-general is elected by the superiors of the convents, with the concurrence of the bishop and priest (of the parish ?) ; she governs the Béguinage with the aid of a small council chosen by herself among the worthiest members of the sisterhood; the superiors of the separate convents are elected yearly — generally re-elected — by their own sisters. The community belongs to the order of St. Dominic.

In 1793 the Béguinages of Ghent, after surviving so many former dangers, narrowly escaped disfranchisement, by an appeal to the record of their charitable deeds and donations ; they were spared on condition of the transfer of their property to the administration of the hospitals, to whom the superiors now act as trustees, and render a monthly account. These revenues arise from certain legacies and donations; " the only common fund is that appropriated to the infirmary and for the relief of the sisters in any temporary emergency; this fund is privately administered by the superior-general. Miss Stephen gives no statistics as to the number of the Béguines, or their increase or decrease; two years ago there were between six and seven hundred in the Grand Béguinage alone. When she was at that establishment in 1868, it was threatened by the hospital administration with several innovations which would essentially change its character, and might endanger its existence; but three years later they had not gone into effect, and nothing was said about them. The sisters resist such changes, and assert their claim to gratitude and respect for their services in times of public calamity, when they have sometimes fallen victims to their devotion. But as has already been stated, such work is no part of their professed object. The impression left upon the memory by the quaint and quiet little streets, which carriages are not allowed to enter, the charming costume of the Béguines, the picturesque evening service, when strangers may see them assembled, the privacy and liberty of the lives, is of an establishment calculated to secure an agreeable retirement for its members, rather than any active good for humanity at large.

The next association described is the Third Order of St. Francis. It grew out of the revival of religion in the thirteenth century caused by the preaching of St. Francis Assisi, and the desire of many whose circumstances forbade their joining either of his regular orders (the Minor Brethren, and Claristans, or Poor Ladies) for a religious rule of life. St. Francis for their benefit prescribed certain observances, and instituted a society called the Order of Penitence. The rule requires that a married man or woman wishing to join the order should have the consent of the husband or wife, *if the consort be a faithful member of the Roman Catholic Church.* There is a year of novitiate, the vows are perpetual; after making the full profession, a member can only leave the order to join a stricter one. A particular dress is enjoined, of which, however, only the Franciscan cord and scapulary are obligatory, and these may be worn beneath the outer garments. There is much detail as to religious observances, renunciation of worldly amusements, fasting, abstinence, and "spiritual favors"; a great deal of this is susceptible of modification in individual instances by the dispensation of the father director of the congregation to which the member belongs. The order is divided into several classes: first, those who have taken the solemn vows (poverty, obedience, and chastity), and are living in a community, the Regular Tertiarians, who have in fact embraced the monastic life; second, those living in communities, but under renewable vows, — these Tertiarians (as all the members of the Third Order are called) are especially devoted to works of charity; third, those devoted to the service of the First and Second Orders; fourth, Tertiarians living with their own families, but under a vow of chastity; fifth, those living in the world, without any vows. These last are either isolated or members of regularly organized congregations. The rule is strict as to the good character of its candidates. The earliest age for postulants is between eighteen and twenty; women cannot belong to the fourth class above mentioned under forty. There is a clause requiring Tertiarians to make their wills within three months after profession, rather oddly accompanied by a statute forbidding father directors to advise or even permit the members, if consulted by the latter, to bequeath property to their own convent or church. The organization of the Third Order is exceedingly intricate: "It is placed under the direction of the First Order; the minister-general of each of the three branches of the First Order, the provincial for his province, and the *père gardien* for the district attached to each convent, are the superiors and *ex officio* visitors of the Third Order. The congregations have their special government as follows: a director; below him a rector for the men, and mother superior for the women; a deputy rector; master of the novices; secretary; treasurer; "zélateurs," "sacristans," "infirmiers," and other officers not enumerated who form a "discrétoire," or council, of which the director is president. The director is a priest appointed by the First Order; the other officers are elected triennially by their own congregations. Their various titles indicate their functions. "The 'zélateurs' are specially charged to watch secretly and with discretion over the strict observance of the rule, statutes, and usages of the Third Order. They are to inform the brother rector of the negligences and infractions of which brethren may be guilty. It also belongs to the 'zélateurs' to superintend the conduct of Tertiarians in the midst of the world," etc. "The 'infirmiers' are either priests or old and experienced brothers, whose business it is to visit the sick, to apply to the rector for any relief which they may require, to see that the sick person receives the sacraments, makes his will," etc. In the "discrétoire" everything is decided by the majority of voices, the father director having a casting vote. "The correction of faults, which is one of the most important objects of the institution of the Third Order, is intrusted chiefly to the brother director, who is bound to give two warnings, a third being given by the father director before the final sentence of exclusion can be pronounced by the visitor." The influence and extent of this association was immense from its very foundation, and adapted itself marvellously to the needs of the age and the various positions of its members, which comprised people of every rank and calling. "In the time of Francis himself and of his immediate successors, the Franciscan cord (the emblem of the restraint in which the soul of man is to hold the beast to which it is wedded) was to be seen on countless multitudes, in the market-place, in the universities, in the tribunals, and even on the throne. In the camp it was still more frequent, for there was much latent significance in the exceptional term by which the general prohibition of military service had been qualified for the members of the Order of Penitence. In the early part of the thirteenth century, the defence of the Church, of the Catholic faith, and of their native land, was to Italian ears an intelligible periphrasis for serving either under the standard of the cross against the Albigenses, or under the standard of the Guelphs against the Ghibellines; and the third estate of the Minorites formed an enthusiastic, patriotic and religious chivalry, which the Pope could direct at pleasure against either his theological or political antagonists. . . . . One hundred and thirty-four crowned heads, and a great number of royal dukes and princes, and more canonized saints than all the other Third Orders put together (amongst others St. Louis of France, St. Elizabeth of Hungary, and St. Vincent de Paule), are claimed for it by the Manual. What is more to our purpose is, that from the middle or end of the thirteenth century its members have undertaken works of charity of all kinds. They had hospitals. . . . . They had also asylums and houses of rest for pilgrims, orphanages, and refuges for fallen women. Their rule does not enjoin the practice of works of charity, except the relief of poor members, and the statutes even earnestly warn members 'not to associate themselves' with any such works, outside the congregation, without first having well ascertained that they will never be an obstacle to the accomplishment of the obligations and duties imposed upon them by their vocation as members of the Third Order, or without the permission of the council. Within these limits they seem still to have very numerous charitable institutions of every kind, which are under the direction of the council. These are carried on principally by the 'regular' branch of the order, that is, by nuns living in communities." The Third Order of St. Francis spread throughout Europe during the thirteenth century, and in the course of the three following through Asia and America. It encountered persecution from the first, chiefly at the hands of secular princes, but was always particularly favored by the popes, upwards of a hundred bulls having been published in its favor, and two general councils having approved it. During the suppression of religious orders in the last century it almost disappeared, but has revived in great vigor within the last few years Ten years ago it was officially reported that there were thirty thousand Tertiarians in France alone, and that their number was daily increasing.

The Sisters of Charity, best known of all religious fraternities, was founded by St. Vincent de Paule in 1617. It arose accidentally, in consequence of his recommending to his parishioners a poor family of the neighborhood which was in great want; such a number came to their assistance, that he organized them into a *confrérie de charité* for visiting the poor and sick of the whole district. The society, composed exclusively of women, spread with wonderful rapidity. St. Vincent established similar ones of men, and founded the congregation of the Prêtres de la Mission, but these did not succeed equally well. In less than ten years the society had gained such proportions that St. Vincent gave up all other occupations and placed himself at its head. In his first enterprise he had been seconded by two ladies of his congregation; and he placed the chief supervision in the hands of Madame Le Gras, known to us by her maiden name of Louise de Marillac, a young widow who dedicated the remainder of her long life to the pious work. "The original plan of these societies was that the ladies belonging to them should themselves do all that was necessary for the sick, make their beds, dress their wounds, and administer food and medicine. In the country villages this was not altogether foreign to the habits of many of these ladies; but when the societies were established in Paris, they were joined by many ladies whose rank and circumstances made such a personal attendance on the poor impossible. Women of a lower class were therefore wanted, whom the ladies might employ to do what they could not themselves undertake." Thus arose the practice of training women for nurses. Next, it was found advisable to divide the ladies themselves into two classes,—one for supplying the material, the other the spiritual, wants of their poor; some prepared jams and jellies, and others visited the sick-beds with ghostly advice and consolation. During St. Vincent de Paule's lifetime he was the means of establishing the Foundling Hospital, Asylum for the Aged, Asylum for Convicts, besides the Sisters of Charity, who were already doing an immense work, not for the bodies alone, but for the souls, of those under their care, and were busy throughout France and in many foreign countries. Their constitution ordains a superior for every congregation, to be elected triennially by the majority of the members; she may be re-elected once, but not oftener; three other officers, an assistant to the superior, a treasurer, and a "dispensière" (bursar), to be chosen annually. The superior defers in everything to the director, or superior-general of the mission, but has entire charge and control of the Sisters and candidates; the three subordinate officers form a council for her assistance, and each acts respectively as deputy for the one above her, in case of absence. "All the Sisters are to obey the superior and her representatives, as obeying God in their persons; they are also to obey the director, as regards their conduct." The portion usually required on admission is five hundred francs (about one hundred dollars). The only article of ineligibility against a woman of good life is illegitimacy. The Sisters are not allowed to take solemn (i. e. perpetual) vows; they can leave the order when they please. The whole rule of the order is quoted by Miss Stephen, with the exception of some missing articles. It sets forth as its chief object the honor of Jesus Christ, the source and model of all charity, by giving aid, corporeal or spiritual, to the poor, sick, helpless prisoners, and other needy; it enjoins special strictness and circumspection, as substitutes for the seclusion and privacy of the close orders; urges to humility, simplicity, charity, submission, self-abnegation, unworldliness, patience. Many of the articles turn entirely upon matters of dress and economy, the members having no money except what is allowed them by the superior; strict obedience to all officers is exacted, and to the physicians who have charge of their patients; a general effacement of self is greatly insisted upon, and a high religious interpretation of the significance of their name and office, "Sisters of Charity." The rule for daily life is somewhat minute, dividing the time of those who live in community down to half-hours; many directions are given about dressing and undressing, but no mention is made of any except holy-water; conversation, except on religious subjects, is almost entirely prohibited; all letters sent and received are to be previously read by the superior; all intimacies or friendships or preferences are utterly condemned, as savoring of the flesh, and not of God; "they must own no bond to any created thing, such as places, occupations, or persons, not even their parents, kind folks, or confessors"; nor allow themselves to feel greater interest or liking for one patient than another; one Sister may not even kiss another, except in token of reconciliation, and then the form is prescribed. The original rule, it is said, has never been changed; indeed, the superior-general of the mission told Miss Stephen that there is no power or provision for altering it in any particular. All the regulations for work and conduct as members of a community are full of Christian common-sense; those which apply to individual guidance tend to asceticism and triviality. Less than a hundred years after the foundation of the order, there were nearly two thousand Sisters; at the Revolution they were dispersed, but immediately after the Reign of Terror they reassembled at the Mother House in Paris, and were soon able to resume their dress and calling. Four years ago they were estimated at about twenty thousand in all parts of the world.

Their work has been a great and noble one. Where they have seen the least of our Lord's little ones hungry, they have fed them; naked, they have clothed them; sick or in prison, they have visited them; hopeless lunatics, still more hopeless criminals, have known their ministering offices; wherever there has been war, pestilence, or famine, they have brought help. But the church to which they belong allows of no work which does not bear her sign-manual.

The deaconesses of modern Germany come next on the list. The cradle of this order is a quiet village on the Rhine, called Kaiserswerth; its single street is as clean as a newly swept room, and down the centre a double row of locust-trees forms a vista through which is seen the wide river flowing through a landscape which already shows the placid features of the Netherlands. The buildings of the institution constitute half the little town. They consist of the Mother House, where the deaconesses are trained, the Hospital, Insane Asylum; Deaconess School, where girls too young to begin the regular course of instruction are prepared; Infants' School; Orphan Asylum; Asylum for discharged Female Prisoners and Fallen Women; Seminary for Teachers; "Feierabend" House, or Holiday House of Rest, for Infirm and Aged Sisters; besides some co-operative farm buildings which must have been put up since Miss Stephen's visit. There is also a house called "Salem," about two hours from Kaiserswerth, whither the Sisters are sent for change of air and rest. These are all quaint, home-like looking houses, of dark brick with red tiled roofs, some small, some large, with a great deal of nicely kept garden ground about them. Nothing can be more touching than the narrative of the origin and rise of the institution, as given by its founder, Pastor Fliedner, with true German earnestness and simplicity. His little parish of Kaiserswerth, containing but two hundred souls, had just been ruined by the failure of a velvet-manufactory in which they were all employed. When he assumed the charge, in 1822, such destitution ensued, that after getting what help he could from neighboring parishes, he made a journey through England and Holland to collect funds for his poor flock. He was much struck by the charitable societies of these countries, especially the prison visiting, and in 1833 began his own humble attempts under the following circumstances. The Prison Society at Düsseldorf was anxious to provide an asylum for discharged female prisoners, where they could receive religious and industrial training until fitted for respectable situations. There was no such asylum in Germany, and many people thought the scheme impracticable; Pastor Fliedner offered to try the experiment, though he considered the smallness of his parish an obstacle. A few years before, he had married a lady who had for years gratuitously superintended an orphan asylum, and was greatly interested in the prisoner question. A female friend left her home to join them in the work. These three trusting souls began without funds or other assistance, and the first inmates of the asylum were lodged in a summer-house in the parsonage garden, for want of room elsewhere. Shortly afterwards a house was hired, chiefly from the brave pastor's scanty means, and the summer-house was used as a knitting-school for poor children, which developed into an infant school. Three years passed, and already numbers of reformed female prisoners and children of every denomination coming for instruction had rewarded their patience and hopefulness. The care of the sick was the next issue. This was a more serious step, for it required a hospital and nurses. The only house in Kaiserswerth fit for such a purpose was offered for sale; its price was over sixteen hundred dollars in our money, — an immense sum for that country and class. "We had no money," writes the pastor; "my wife had been confined only three days before; but, nevertheless, she laid it upon me, in the name of the Lord, to buy the house, and the sooner the better. I bought it cheerfully on the 20th of April, 1836. The money was to be paid before Martinmas of the same year." The money was paid before that time.

Many people were beginning to feel an interest in the undertaking, but, at the same time, jealousy and prejudice, private and sectarian, were aroused, and particular opposition was made by the Roman Catholics. Entire religious liberality and absence of any desire to proselytize on the part of Pastor Fliedner partly disarmed this hostility. Two friends, single women, came to offer themselves for nursing in the hospital, the first Kaiserwerth deaconesses. "On the 13th October the two maidens went into the house and arranged the lowest floor for themselves and a few sick very scantily. A table, a few chairs with half-broken backs, damaged knives, some forks with only two prongs, old-fashioned worm-eaten bedsteads of different shapes and colors, and similar furniture and utensils, which had been given us, — in such a servant-like condition we began, but with great gladness and thanksgiving." This was in 1836; in 1867, Pastor Disselhof, the son-in-law and successor of the good Fliedner, writes: "Such institutions were afterwards established in the Protestant churches of many other countries, mostly in connection with our Mother House at Kaiserswerth. In the year 1841 the Deaconess House at Paris was opened"; and he enumerates others at Strasburg, Echallens, Dresden, Utrecht, Berlin, Pittsburg (U. S. A.), Breslau, Königsburg, Stettin, Ludwigslust, Stockholm, Carlsrhue, Richen (near Bale), Neuendettelsan, Stuttgart, Augsburg, Halle, Darmstadt, Zurich, Hamburg, Berne, Hanover, London, Copenhagen, Dantzig, Treysa (in Hesse), Posen, Frankfort-on-the-Main, Frankenstein, and the Elizabeth Hospital of Berlin. "In the year of Fliedner's death, the Protestant Church counted thirty mother houses, with 1,590 deaconesses; now there are thirty-four, with more than 1,700 sisters." In 1868 there were forty-two mother houses and 2,106 deaconesses, and the total number of asylums, etc., connected with the order, was 566. At that time there were above 500 deaconesses at Kaiserswerth alone, 90 being engaged as teachers, the rest as nurses. On my own visit (October, 1871) there were seventy probationers in the seminary being educated as governesses, and one hundred and fifty in the Mother House learning to nurse; the number of deaconesses I forget.

Three years ago there were 145 "out-stations" in all parts of the world; some fifty hospitals and other charitable institutions all served by them; many sisters do parish work, and nursing or teaching in private positions; in time of war and epidemic they have always been prominent and efficient. The official name of the order is the Rhenish Westphalian Deaconess Association; it was formally recognized in 1846 by the King of Prussia. It is governed by a council of a president, a secretary, treasurer, the inspector of the institution, the assessors of the Rhenish Westphalian provincial synods, and ten or twelve members, among whom must be a physician in practice; they must all be members of the Lutheran, or, as it is called in Germany, Evangelical Church. This council meets quarterly at Kaiserswerth, but may be called together by the secretary on an emergency. The internal management is carried on by the inspector and mother superintendent. The latter is assisted by a council, who, as well as her subordinate officers, are chosen by herself from among the deaconesses. Before admission the candidates are required to declare that they intend to adopt the calling for life; they have to pass through a probation of from six months to two or three years, as requisite; on consecration they bind themselves to serve for five years, unless special circumstances, admitted by the directors of the institution, compel them to give up their office earlier. The conditions of admission as nursing sisters demand, primarily, a certificate of good character from their pastors; to this is added a sketch of their own lives and spiritual experience by themselves. Much stress is laid on a pious and devout frame of mind, an earnest spirit, kindly temper, and cheerful disposition. Good health is required, and a physician's certificate for this also. The age is limited to between eighteen and forty, but exceptions are made. A knowledge of ordinary household duties, knitting, sewing, washing, cooking, reading, writing, and arithmetic is essential, and to speak German well. On application for admission, they must send in a certificate from the temporal authorities, and a written consent from their parents and guardians. During probation they receive their board gratis, and caps, collars, and aprons, which they are bound to wear; on admission they also receive pocket-money; they are expected to bring with them sufficient and suitable under-clothing, a few plain dark dresses, and their Bible and hymn-book. The general requisitions in a teaching sister are the same, and in addition to the rest of her vouchers she must send her school certificates. She must have a gift for singing and a musical ear; be able to write a letter and a short description without mistakes in spelling and grammar; to work sums in the four rules of arithmetic, simple and compound, for integers and fractions; to know several good hymns by heart; be able to relate the principal Bible stories, and facts of German history; to have some knowledge of geography and natural history. The seminary course of training is one year at least for the infant school, two for the elementary, and three for the higher school. Probationers pay for their seminary expenses, and if they leave it from any cause before the time for which they are pledged is out, must repay what they have cost the institution. "All probationers must be unbetrothed and their heart still free." If deaconesses, in the faithful fulfilment of their office, become disabled or sick, and possess no means, the direction assists in providing for them for the future, either in the Mother House or otherwise. Deaconess pupils below the age of eighteen are received and trained, but not admitted as probationers until they reach that age. Upon their consecration they are required to sign the "Hausordnung," or rule, which is no longer made public, though it was frankly shown in the time of Pastor Fliedner, to pledge themselves to keep it faithfully, to discontinue all intimacy with men and other earthly ties, all unnecessary correspondence, and to devote themselves exclusively to their office. A great deal of judgment is shown in assigning to each the branch of household or hospital economy for which she seems best fitted; some cannot learn to cook, nor others to wash; their strong and weak points are soon discovered, and their work allotted accordingly, but always by authority, and not upon their own choice; even in the matter of nursing and teaching, although they enter the institution with an avowed intention of following one or the other, the ultimate decision is made for them. Notwithstanding the opposition of the Roman Catholics, a fear existed among other people that the order had a monastic tendency. In my visit, which included school-room, chapel, and every part of the establishment, I saw no trace or hint of aught but the most unadorned Evangelicalism, nor was there the least tinge of anything else in the conversation of the mother superintendent, the sisters at the head of the seminary and hospital, or several others with whom I spoke at length. The figure of a dove recurred in several places, and in the simple church appeared in a fresco, flying to our Saviour's arms. Seeing in this not so much Romanism as a little gentle mysticism, I inquired its meaning, and was told that the dove is the symbol of the deaconess order, and means merely peace, and no rest upon earth, the church fresco pointing to the only and final rest. The consecration service is beautifully simple: a hymn; a short discourse and exhortation respecting the office; a pledge, not unlike in form that of confirmation in the Episcopal service; a prayer; another hymn; the celebration of the Eucharist; and a dismissal blessing. The whole conception of their ministry is unfolded in the solemn, touching words of this short service, — a ministry whose emblem is the dove, whose motto might be "Peace on earth, good-will towards men."

The next institution described is the Training-School for Nurses at Liverpool, together with their system of district nursing. It was established about ten years ago, and originated, not from a philanthropic movement, but from a practical conviction of the necessity of such an institution in connection with the Royal Infirmary. Its objects are: "1. To provide thoroughly educated nurses for the Infirmary; 2. To provide district or missionary nurses for the poor; 3. To provide sick-nurses for private families," — the supply in all these branches being entirely inadequate. Sufficient money was raised by donations and subscriptions, the usual boundless liberality of the English towards charitable purposes being fully displayed in this instance. "The school was the foundation of the enterprise," says the report of the committee, "and the school was of necessity dependent on the Infirmary. . . . . The house is built on the ground, and is the absolute property of the Infirmary. The committee of the school are selected from the Infirmary committee, the chairman and treasurer being *ex officio* members. . . . . The lady superintendent of the school should also be matron of the hospital, and the female officers of both should be entirely under her control. Our next step was to seek for a lady able and willing to undertake the office of superintendent. . . . . To take charge of such an institution from its very commencement, no ordinary qualities were required. A lady competent for such a post must be endowed with considerable energy and a hopeful spirit; must have strong religious principles, yet be free from anything like sectarian prejudice and bigotry; must possess a clear and sound judgment; must be devoted to her work, and have skill to select, and moral and mental power to control and inspire, a number of young women brought together under circumstances affording them great opportunities of usefulness and self-improvement, but at the same time exposing them to considerable temptations. We were fortunate enough to find a lady who possessed the requisite qualifications, and to prevail upon her to undertake the work." The lady superintendent and a few probationers spent the first year in a hired house; on the 1st of May, 1862, the Nurses' Home was ready for them. Two years later the committee reports, that though thirty-three young women have been admitted as probationers within a few months, and several older women engaged as assistant nurses, the staff is entirely insufficient for the demand; and the house is too full to admit more, although there are applicants. Three years ago, though the house had not yet been enlarged, there were forty-five probationers. The rules exact that the nurses shall attend the sick, either rich or poor, at hospitals or in private houses, as the lady superintendent or committee may appoint; that no present, gratuity, or possession of a deceased patient is to be accepted, beyond some very trifling remembrance of or from the invalid; that the nurses while on duty wear the dress appointed by the establishment; that a certificate of capability and good conduct from the patient's family and physician is to be brought back by the nurse in every case; the rest relate to minor matters of order. The age preferred in applicants is from twenty-five to thirty-five; certificates of good health and character are required; the probationers are under the authority of the lady superintendent, and subject to the rules of the Infirmary and Training-School. They are supplied with board, lodging, and washing; there is a year's probation, during which the probationer receives £14 4*s.* wages, — about $61. The only pledge given is a letter to the chairman of the committee, written after the first quarter, promising at the end of the twelvemonth to enter the service for two years. All are expected to be able to read and write. In cases where the patients can afford it, the nurses are paid, but the money belongs to the fund of the Training-School, and private remuneration of any sort is forbidden. This is also the rule in religious associations whose members go out to nurse. The system of district nursing is carried on as much as possible with the co-operation of the clergy of the neighborhood and their congregations, and the medical men in charge of the dispensaries. There are now about twenty such districts in Liverpool. The organization of each belongs to a separate lady superintendent, who begins by establishing a centre whence supplies can be distributed, bedding and similar comforts lent, and where cooking can be done, under the charge of a trustworthy person. Applicants for assistance must bring recommendations either from a clergyman or physician, or responsible person in the district. The nurses are expected to give at least five or six hours daily to visiting the sick poor; if a case be more suitable for the hospital or workhouse, or require particular attention, the nurse reports it to the superintendent; she is expected to do everything which may tend to the patient's comfort, in keeping the room clean and aired, — in short, in rendering any needful service. Her board and wages are paid by the Liverpool Central Relief Society. The institution took its degree, so to speak, when the cholera broke out in Liverpool, in 1866. The city authorities applied to the Training-School for nurses; the available force was placed at their disposal, and as many others as the time would permit were trained as assistants. The heartiest testimony has been given by competent judges to their efficiency, activity, good-will, and self-devotion, and the happy results. Besides the immediate relief of suffering, the institution aims at a wider and deeper good, — the diffusion of habits of cleanliness, thrift, and self-help; of a knowledge of the elementary laws of health; an economy and judicious application of the means of relief, so munificently bestowed in England, often with no result; above all, the cheering and encouragement of the spirits of the poor and suffering, and removing the irritated sense of the barriers of class and injustice of society, so frequent among these unfortunate people, which tends to produce what are called "the dangerous classes." * The endeavor has been to exclude sec-

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* Timely help and advice often sets honest households on their feet again, who are fast being carried into the ocean of pauperism by the illness of the father or mother. The effect in bringing about a better state of feeling towards those more

tarian spirit from the institution; all interference in religious matters, on the part of the nurses, is strictly forbidden; they are required, while living at the Home, to attend public worship, — according to the rites of the Church of England, I suppose. The religious nature of their work, and the necessity for the strongest religious motives to enable them to perform it faithfully, are constantly held before them; and, judging even from bare statistical evidence, the lady superintendent of the Home must set them a noble example.

Miss Stephen has shown discretion in avoiding the subject of English sisterhoods, though it is not quite fair to say that she does so because "there is no one sufficiently widespread or long established," there being more than one of older date and more extensive operation than the Liverpool Training-School for Nurses.

So ends Part I. Part II. treats the question whether charitable purposes are best served by religious or secular institutions. Difficult as it has been to bring Miss Stephen's very full accounts of the various sisterhoods within the limits of a review, it would be impossible and most unjust to her to attempt to crowd the reasoning of one hundred and fifty-five closely printed pages into such a compass. The whole Second Part is most interesting and searching; and although the professed object of the book is to examine the merits of sisterhoods "for charitable purposes," that vexed and momentous question is really discussed in all its bearings. The successive chapters of Part I. are only so many premises on which she bases her arguments and forms her conclusions. She deduces from her observation of the two systems (secular and religious) the effects on their members, on the poor, and on society at large, and considers the abstract questions on which both rest.* Utility in its highest, deepest, to speak properly, in its *sacred* sense, is Miss Stephen's touchstone. Her opinion

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blessed with this world's goods has been no less beneficial. "The nurse — who, after the first week's visiting, came back crying, saying she could not bear the scenes she had to witness — soon found the good she could do so clear and satisfactory, that she is happy and contented, and has quite given up her wish to return to her former work of nursing the rich."

[*] The titles of the chapters of Part II. may give an idea of the ground which is gone over in the process: The Wants of the Poor; The Interests of Charitable Women; The Public Good; and The Theological Questions at Issue.

is, that certain evils are inseparable from sisterhoods, and that the good done by them could be done as effectually by secular institutions. The personal question involved is discussed comprehensively and powerfully under "The Interests of Charitable Women," and almost exhausts that branch of the subject. Almost, not quite. Miss Stephen ignores "vocation," a cant term for an undeniably real thing; she overlooks the desire — which in some natures is a necessity — for seclusion, meditation, *recueillement*, offering as our only alternative the old self-centred idea, of the "religious life" where everything is done for one's own soul's salvation, or a busy existence of charitable activity in the outer world however uncongenial, taking no note of the possibility of a middle course like that offered by an establishment on the principle of the Béguinage. Perhaps Miss Stephen, in dealing exclusively with things as they are, and putting forward no scheme of her own, found no place for these considerations; but she proclaims utility as the primary and final article of her code, and the Liverpool Training-School as its exemplar. In the chapter on the "Public Good," she observes with rare good sense: "It seems to be taken for granted that the poor are exposed to every want which is felt by their richer neighbors, with the addition of those arising from poverty. Now a very little observation will show that, if money satisfies some wants, it originates at least as many others, especially when it has been applied to its best purpose, that of education. It would be truer to say that the rich experience every want which is felt by their poorer neighbors, with the addition of those arising from wealth and leisure." She goes on to say: "If the fact of suffering be that which constitutes a claim upon the ministrations of good women, the rich are entitled to such ministrations at least as much as the poor." Some people might demur to this, and esteem those ministrations as part of the great system of compensation, to counterbalance the lack of other alleviations which the rich can always command, but which the poor must ever want. But Miss Stephen further assumes, or rather has previously assumed, that the majority of women who wish to enter religious or charitable fraternities are not those of recognized social standing or independent — if limited — means. How true this may be in England, we cannot judge; but it is certainly not true of this country. Therefore, in this view of the equal claims of rich and poor to our sympathy and aid, she overlooks the extreme difficulties which present themselves to many women in going as hired or even volunteer nurses among the former, — difficulties common to the nurse and her patients and their families. Taking two women equally devoted to their calling and obedient to the rules of their association, every one must perceive the difference in the moral attitude of her who goes as sick-nurse into a rich house and her who goes to a poor one: in the latter, whether paid or not, she is a minister; in the former a servant, and only the badge of a professedly religious life which has pledged its members to become the servant of servants can relieve such a relation of much mutual embarrassment. Miss Stephen also seems to me to lay too much stress on the value of such intercourse to female minds; her remarks may apply to those who shut themselves off from it at eighteen, but hardly to women who have known the world and life; women can get from books the greater part of what they learn from men, though the converse is not true, and at least at their present *status* they are less likely to become mere partisans by reading what is written upon all sides of a subject than by hearing it talked of by a father or a brother who takes only one view of it. She also gives too little weight to the hold of a vow, whether perpetual or limited, on most minds. It may be that this hold is a relic of superstition, and that it would be better if vows and oaths could be dispensed with on all occasions, civil and religious; but while they have more power over the human mind than mere force of conscience, can we do without them? The abuse of such forms proves nothing, their disuse will not dispel superstition; but the gradual evaporation of superstition will lead to the disuse of the forms.

In fine, with all our admiration for Miss Stephen's book, we cannot consider it "the last word" about sisterhoods; but there is no doubt that it is the weightiest that has yet been spoken, and no one who is interested in the subject can do better than go to it for information and food for reflection.

SARAH B. WISTER.

ART. VII. — CRITICAL NOTICES.

1. — *Meta Holdenis.* Par VICTOR CHERBULIEZ. Paris: Hachette. 1873.

WE hardly know to what extent M. Cherbuliez is known and admired by English readers in general; to ourselves, we confess, he is an old friend, and a new novel from his hand has all the dignity of a literary event. Our friendship for him was formed more than ten years ago, over his *Comte Kostia*, the work by which he made his mark among the French romancers of the day. We doubt if this charming romance has ever become popular, but we are safe to say that it has had no indifferent or ungrateful readers. To our sense it seemed full of brilliant promise; it was impossible that so genuine an artist should not do more and better. M. Cherbuliez has done more, and has given his early masterpiece half a dozen successors; but we have often vainly wondered whether, on the whole, he has done better. We inclined to think not, and this *Meta Holdenis*, clever as it is, has put an end to our doubts. The author's talent has become more and more flexible and polished, and, in the way of mere manner, the volume before us is still a masterpiece; but it has parted — parted fatally, we think, in the present case — with a certain essential charm, — a turn of fancy in which spontaneity and culture went hand in hand with singular grace. M. Cherbuliez's career, through his several novels, would be a study for a penetrating analyst, and demands more space than we can bestow. His talent is peculiarly delicate, and its development very much a matter of fine shades; but to trace these shades would be suggestive of many things, possibly of some reflections not altogether cheerful. A certain melancholy element there is in the history of all marked talents: the fact, we mean, that the growth of skill is always attended with the loss of simplicity. The genius ripens, but — unlike peaches and plums — it hardens. An author's first really strong work (especially when it is a work of imagination) is always more or less *classic*, as compared with works produced after he has caused something to be expected of him; it has a more virile compactness, it is more simply and contentedly itself. *Vanity Fair* is classic as compared with the *Newcomes; Oliver Twist* is classic as compared with *David Copperfield;* and *Adam Bede*, to our mind, is signally classic as compared with *Middlemarch.* So, to proceed from greater things to lesser, the *Comte Kostia* is classic as compared with *Meta Holdenis.* The charm of the former tale is difficult to describe, and we recommend our readers to taste it at first-hand. The story is perfectly a romance, and yet it is profoundly real. It is a piece of the finest artistic polish, and yet it bristles with "sensations"; it is the work at once of a master of style and of a consummate story-teller. But its great merit in this age of dingy realism is that it is simply beautiful, and that the author has ventured to remember that it is not precisely amiss that a work of art should be lighted with a ray of idealism. The book is an excellent example of the discreet use of this ingredient; it leaves the story, mechanically, as perfect as possible; it only furnishes an atmosphere for the mechanism to work in. M. Cherbuliez is a Swiss, his native city of Geneva playing a part in most of his tales; and although we may be sure, in the light of his last performance, that he will not thank us for doing so, we may nevertheless express a sense of the characteristically Genevese complexion of his talent in its earlier form, — a mental complexion lighted, indirectly perhaps, but none the less visibly, from Germany as well as from France. The Genevese mind, in so far as a stranger may guess at it, is less vivacious than the French, and says things incomparably less agreeably; but it feels them strongly enough, and, whatever they are, it has a way of taking them more seriously. This serious way of taking things we have always regarded as a result of its having a side-light open to German influences. How many Parisians of average culture can read Goethe in the original? This is a very common accomplishment in Geneva. M. Cherbuliez had read Goethe to good purpose, and his first two novels were the work of a man who took things seriously. *Meta Holdenis* is written to prove that German seriousness is very likely to be a humbug; it may be or may not; what remains true is, that the discerning reader of the *Comte Kostia* and *Paule Méré* felt himself in contact with an imagination whose poetically blue horizon, in one direction at least, lay well beyond the Rhine. The second of these tales is an attempted exposure, rather youthful in its unsparing ardor, of the narrowness and intolerance of Genevese society. How true the picture is, we are unable to say; but the story is admirably touching, and it has an aroma much less of the Parisian asphalt than of the cropped and drying grass on the mountain slopes that descend into the Lake of Geneva. The heroine is a delightfully tender conception, and though perhaps she is not absolutely natural, we prefer her, taking one piece of false drawing with another, to Meta Holdenis. In spite of the relative *naïveté* of imagination that we have touched upon, the author's first two tales were clever enough to leave us no surprise at the cleverness of the *Roman d'une Honnête Femme;* and what we felt, beside the pleasure of reading a very interesting story, was a certain suspicious regret at the eclipse of this same *naïveté*. The blue German mountains on the horizon had become extremely vague, and the book had much less a perfume of Goethe than of Octave Feuillet. M. Cherbuliez has remained, to our taste, a writer of an intellectual force which would not be represented by an addition of twenty Octave Feuillets; the greater pity that he has come at last to pitch his tone in the same key, — a note skilfully modulated, certainly, but a falsetto for all that. Of this intellectual force his two next tales — *Prosper Randoce* and *L'Aventure de Ladislas Bolski* — gave brilliant evidence. Each is an extremely ingenious study of an eccentric character: one of a man essentially a rascal, in spite of many gifts; the other of a poor fellow essentially a hero, in spite of many follies. Prosper Randoce is a Parisian scribbler, with a genius three parts tinsel to a fourth part silver, and a *morale* containing very little pure metal indeed. He is a portrait from the general type on which two powerful French novels have been based, — the "Horace" of George Sand, and the *Grand Homme de Province* of Balzac; the type of the self-deceiving charlatan, with now and then an honest impulse just so timed as fatally to confound the light and shade of his character, and extort the credulity which is foredoomed to repentance. The picture is admirably ironical, and the tone of the rabid realist of recent French poetry and fiction is burlesqued with extraordinary wit. *Ladislas Bolski* is the history of an infatuated young Pole, whose reason has succumbed to the tribulations incurred by the fantastic impetuosity of his temperament, related by himself in an interval of sanity. It is the most ingenious of the author's conceptions, and perhaps the most profound; in its attitude of detailed and sustained psychological introspection it resembles one of Mr. Browning's dramatic monologues. The author always rises to the level of his opportunity when he deals with a poetic element. His unbalanced but heroic young Pole, the dupe of his generosity and the victim of his passionate illusions, is a very poetic creation. When M. Cherbuliez gives the rein to his imagination, he does finer things than when he allows *carte blanche* to his wit and his remarkable skill in epigram. His imagination is always generous, and we pay it none too ponderous a compliment in adding, agreeably philosophical; his wit is apt to savor of an incisive but narrow irony, than which, says an authority in his own tongue, no attitude of the mind has less to do with philosophy. *Ladislas Bolski* is a tragedy, and marches roundly to a picturesquely dark *dénouement*. In this, as in all his tales, M. Cherbuliez is an admirable narrator; and if he gives the reader a constant literary pleasure, it is quite without detriment to the surprises and sensations attendant upon all properly regulated novels. In this respect the tale preceding the present one, *La Revanche de Joseph Noirel*, is perhaps his most powerful performance, as it is indeed in every way his most brilliant one. It is more than entertaining, and more even than characteristically clever; it has a certain imaginative elevation, which recalls the best elements of the *Comte Kostia*. If in *Meta Holdenis* he did not seem to us to have lost ground, we should say that in *Joseph Noirel* he had taken a fresh start. Here again he has selected an eccentric type of character, and has unfolded it with elaborate ingenuity. Joseph Noirel is a young Genevese mechanic, of the most sordid origin, but of a temperament which throws him into ardent sympathy with red radicalism, the International, and the Commune. He falls in love with his master's daughter, but is brought to a bitter sense that she is not for such as him, — a conclusion which fatally aggravates his moral irritability. She, meanwhile, — and a singularly enchanting and appealing figure the author has made of her, — is married in zealous haste by her parents to a Frenchman of title, but of enigmatic antecedents. The enigma is found in the course of time to have a very dark answer, and the young wife becomes entangled in sufferings and terrors, amid which she is very glad to receive the advice and assistance of the despised Joseph. Here begins his *revanche;* it is overwhelming and complete, and his compensation is even more fatal to his happiness than his disappointment was. The incidents will hardly bear repetition, and it takes all the author's tact and skill to make them probable. Probable or not, they are vastly thrilling, and it is really a novel pleasure to see situations such as would delight the heart of Mr. Wilkie Collins unfolded with such intellectual mastery. The novel appeared originally in the *Revue des Deux Mondes*, and we well remember as one of the most poignant sensations of our career as a novel-reader the absolutely *balked* state in which the imagination was left at the close of the last number but one. The characters were in a situation from which the compass of a single number could disentangle them only by some expedient of really heroic ingenuity. M. Cherbuliez's device is powerful, and his whole *dénouement* one of the most effective in the range of modern fiction. We have heard its probability, its logic, its taste, its decency, all earnestly discussed; but we must again refer the reader to the tale itself for an opinion. He can hardly fail to be struck with the forcibly discriminated portraiture of the aggressive, brooding, bilious, declamatory little artisan, who dreams of overturning society, and yet cannot keep himself on his feet. He is a singularly vivid image, and yet he is no caricature, but a conception belonging essentially to the day, to the hour.

The heroine of *Meta Holdenis* is, in two words, a German Becky Sharpe. The author assures us, at least, that she is a German, but this is just the point on which his story provokes discussion. With regard to German matters, one would say that he was not a man to deal in cheap burlesques; he knows the country and its literature, and has published some brilliant papers on several German writers; notably, an admirable one on Lessing. The presumption is, therefore, that he tells the truth, and it would carry us far if it did not encounter the adverse evidence of the very tone of the book itself. M. Cherbuliez's story is altogether a *pièce de circonstance*, a really rabid anti-Teutonic pamphlet in the disguise of a novel. We have read it with the dissatisfaction naturally produced by seeing an indifferent partisan spoil an excellent romancer. What need is there, we have even ventured to demand, for M. Cherbuliez's being a partisan at all? Let him stick to disinterested verity, and to an honest German point of view, and leave M. Dumas *fils* unaccompanied in his amazing enterprise of showing us that his *Femme de Claude* was a modern Messalina, because she was the daughter of the "Baron de Fieradlen, — *de très vieille famille bavaroise.*" If Meta Holdenis is not exactly a Messalina, she is very nearly as nefarious a personage, and she is held up to our opprobrium with an almost Juvenalian acerbity. The story is told by the hero to a supposititious female friend (a German, to do her justice), who has tried to persuade him into matrimony with a pair of *yeux célestes.* This heavenly pair of eyes warns him off, and reminds him of the penalty he paid for falling in love with those of Meta Holdenis. He was a poor art-student, and she the eldest daughter of a pious and prosperous hardware merchant, who had lately emigrated from Elberfeld to Geneva. She is not pretty, and yet she is altogether too handsome to be ugly, and her striking and expressive physiognomy is very happily rendered. She cuts bread-and-butter for her numerous brothers and sisters, she sings hymns with a delicious voice, and she effectually fascinates the hero. They are betrothed under a very unctuous parental blessing, and, in the expansion of his confidence, the young man invests ten thousand francs (twelve are the modest amount of his fortune) in his prospective father-in-law's business. The virtuous Holdenis immediately suspends payment, and refers his indignant dupe to the Scriptures for consolation. The daughter plays him false with a grotesque little German baron, and he leaves Geneva in disgust and despair. But his despair makes a man of him, and he works to such good purpose that six years later he is well on the way to wealth and fame. We find him at this moment domesticated with a certain M. de Maussere, a French diplomatist, who has retired from public life to outweather the scandal of having eloped with a married woman. The fruit of this escapade is an intractable little girl, who is about to be committed to the care of a very superior governess. The governess arrives, and Tony (the hero) recognizes the faithless Meta. She is more ambiguously and dangerously handsome than ever, and has brought her genius for duplicity to perfection. The rest of the tale is occupied with her attempts to win a matrimonial prize, — attempts so zealous that she plays a double game, and tries at once to re-entangle Tony and to fascinate M. de Mauserre. She brings both schemes very nearly to a happy conclusion, and lies and plots and counterplots with touching plausibility; but she goes too far, overreaches herself, and is brought to dreadful confusion at the eleventh hour. She departs in wrath, joins a Protestant sisterhood, and talks of the hero and his friend her employer to whoever will listen to her, as a couple of horrible Frenchmen who had tried to seduce her.

M. Cherbuliez's design has been to create anything but a vulgar figure, and his imagination has doubtless dwelt as complacently on Meta Holdenis as on his Prosper Randoče or his Joseph Noirel. But the figure, nevertheless, can only be called, at best, a clever failure, partly because there is nothing so difficult as to draw a hypocrite (particularly a religious hypocrite), but especially because the writer's art is vitiated and vulgarized, made dry and hard, by his obtrusive *parti pris*. He starts with the thesis that a German is in nine cases out of ten a Pharisee and a humbug; a person fond of sentimentalizing about the stars and the angels, the Scriptures and his conscience, but excessively sly and tenacious in his pursuit of the main chance. This view of the German character is nowhere formally stated, but it is constantly implied, often, certainly, in a very witty manner. The hero's reflections on his attempt to paint Meta's portrait are a very good specimen of the author's epigrammatic touch: —

> "Ce n'est pas tout: il y avait dans cette angélique figure autre chose encore que j'aurais bien voulu rendre. Il y a, madame, anges et anges. Ceux qu'on voit en Allemagne ne ressemblent point aux autres; leurs yeux, qui sont souvent de la couleur des turquoises, ont ceci de particulier, que sans qu'il s'en doutent, ils promettent dans une langue mystique des plaisirs qui ne le sont pas. Quiconque a voyagé dans votre pays comprendra ce que je veux dire; il y a sûrement rencontré d'adorables candeurs qui respirent la volupté qu'elles ignorent, de virginales innocences, capables de convertir un libertin au mariage et à la vertu, parcequ'il lui semble qu'il y trouvera son compte, et pour tout dire, des anges qui ne savent rien, mais que rien n'étonnera."

How far M. Cherbuliez is right on this point hardly matters, though we doubt that he is right enough to justify his indefatigably sarcastic tone; a satirist, he ought to remember, should be very right indeed, and we fancy that the sham morality of the Fraulein Holdenis would not have seemed so very typical if the Emperor William had not been so careful to thank God at the end of his bulletins. He little thought that he was going to make a clever novelist misconceive a masterpiece. The desire to make his heroine vividly typical has been fatal to the freedom of the author's hand, to that certainty of touch which is so conspicuous in his other tales. She is rigid, forced, illogical, seen altogether from without. German or not, we very little care: we wish to feel the living, breathing woman, in her virtues or in her vices. We greatly wonder that an artist of M. Cherbuliez's habitual tact and taste should not have seen the vice of his attitude of *showing up* his heroine, of forever working at the reader over her shoulder. It gives an uncommon smartness and pertness to his narrative, but it makes it small art instead of large. Thackeray described the adventures of Becky Sharpe in a very different way, and certainly Thackeray had temptation enough to be satirical. But his satire, where Becky is concerned, always goes hand in hand with a certain tender, sympathetic comprehension of her, with the thoroughly human tone which belongs to perfect insight. M. Cherbuliez, on the contrary, treats us to a kind of brutal exposure of his heroine, which has not even the merit of seeming tragic, for the reason that we don't see her, feel her, believe in her. She is made to order, — made to supply the extraordinary Parisian demand for evidence that German morality is a whited sepulchre, and the German conscience a delicious joke. The demand, as it has chiefly found expression, seems to us unspeakably puerile, and the author's alacrity in ministering to it has an air of unwisdom really disappointing to those who owe him great enjoyment. It seems rather a melancholy matter that this should have been *his* contribution to the moral situation of France and Germany. The truth is, we fear, that M. Cherbuliez is fatally clever, and that he will not believe he has grown unwise so long as he remains so very consciously readable. His polemic impulse in the present case has given a magical point to his pen and an admirable neatness to his style; anything lighter, more impertinent, than the whole movement of his tale, it would be difficult to imagine. But it is a sad falling off for the author of the *Comte Kostia* now to be stringing clever sneers, and offering them to us as a novel. The hard, metallic glitter of his style is a disagreeable substitute for the charming atmosphere of his early works. It is not unfair to speak of the ironical side of his tale as the whole substance of it, for the portraiture of the persons opposed to Meta has caught the infection of her own superficiality. There is an odd sort of levity in the whole picture of the situation of

M. and Madame de Mauserre. In his emulation of the tone of novelists more trivial than himself he certainly hits the mark. Does he really see nothing indelicate in the walk and conversation of Madame de Mauserre, or does he simply put a brave face on it because prudery is a German virtue? This lady is living in what, out of a French novel, you will hardly find called by a politer term than concubinage with the gentleman whose name she has exchanged for that of her husband. Her conduct is irregular, but, if the author insists upon it, we are willing to believe that she is the most estimable person in the world. When, however, receiving, before half a dozen people, a letter announcing her husband's death, and making it possible to legitimate her union, she overflows into an amorous ecstasy, and calls upon every one to share her joy, we rather retract our admiration, and incline to think that she lacked a certain sense of the becoming, without which a lady's charms are precarious. This is simply a slight detail in evidence of the fact that every detail is perverted when the central idea is inharmonious. In a work pitched in a different key, we should, perhaps, have forgiven Madame de Mauserre her want of reserve. Heaven preserve us, says the author in conclusion, from *les consciences subtiles*. The subtlety of the conscience makes half its virtue, and we are afraid that M. Cherbuliez says more than he means,—or more than, as a disinterested student of human nature, he ought to mean. What, in fact, does all this prove, but that art should be before all things disinterested, and that a beautiful imagination may show to very poor advantage when impressed into the service of a transitory aim?

2.—*Antiquities of the Southern Indians, particularly of the Georgia Tribes.* By CHARLES C. JONES, JR. New York: D. Appleton and Company. 1873. Large octavo. 532 pages. 31 plates.

THE author of this important work, a Georgian by birth, began at an early age to collect the Indian relics abounding in his native State. In the course of time this tendency developed itself into a regular scientific pursuit, resulting in the publication of various minor essays relative to aboriginal antiquities, but principally of the volume whose title is placed at the head of this notice. In this work the author presents the native inhabitants of Georgia, and the Southern States in general, as they were first seen by Europeans; enlarging on their physical characteristics, form of government, modes of war and hunting, games, domestic and matrimonial relations, religion, medical art, funeral customs, manufactures, and many other topics bearing on their condition of existence. The greater portion of the book, however, is taken up with descriptions and representations of the earthworks of the district under notice, and of such implements, utensils, and ornaments of stone, clay, shell, etc., as belong to a period anteceding the occupation of the present Southern States by the white race. The aborigines of that region, it is well known, were more advanced in many respects than the tribes living farther north. The former, no longer in the pure hunter state, had become agricultural to some extent, cultivating maize and other nutritious plants, and thus, probably, derived their chief sustenance from the vegetable kingdom. As a consequence, they had abandoned the roaming habits of the more northern hunting tribes, and lived in large communities, governed by chiefs who exerted a despotic power over their subjects. Sun-worship was prevalent among them. Their manufactures, such as tools and weapons of chipped and polished stone, clay vessels, shell-ornaments, etc., were superior to those made by their Northern neighbors, and they paid more attention to the construction of their dwellings. Those of the chiefs were sometimes erected on artificial mounds. Yet, notwithstanding their approach to a more comfortable mode of life, they had not yet emerged from the age of stone, being totally unacquainted with metallurgy, though they sometimes hammered pieces of native copper, which they doubtless obtained from the Lake Superior region, into the shapes of implements or objects of personal adornment.

Several chapters of the work are devoted to descriptions of the earth-structures of Georgia. The tumular erections of that State chiefly occur in the valleys of the Etowah, Savannah, Ocmulgee, and Ogeechee Rivers, and were principally constructed for religious or sepulchral purposes. Shell-mounds abound along the coast and on the sea-islands. Of particular interest is a large tumulus on Stalling's Island in the Savannah River, above Augusta. This curious aboriginal monument of large dimensions is chiefly composed of river-shells, and served, doubtless, for many succeeding generations, as a depository for the dead. A few stone graves, that is, rude sarcophagi constructed of stone slabs, have lately been discovered in the Nacoochee Valley. They are often met — many of them together and forming regular cemeteries — in Illinois, Missouri, Tennessee, and other Western and Southern States.

From the contemplation of these more conspicuous tokens of Indian occupancy the author passes over to a full and minute description of aboriginal weapons, utensils, and ornaments, which forms the standard that enables us to judge of the skill displayed by the former occupants in fashioning stone, copper, clay, and other materials of which they availed themselves in producing those objects. This portion of the book, which constitutes at least one half of its contents, will be particularly appreciated by all who take an interest in the minor details of North American archæology, more especially in the articles of stone, which are here, for the first time, fully and systematically described and figured. About twenty-five years ago, Messrs. Squier and Davis published the "Ancient Monuments of the Mississippi Valley," a work of great merit, which chiefly describes the earthworks of the State of Ohio, and also many of the objects of art discovered in the mounds during the survey. At that period, however, minor Indian relics attracted not that degree of attention which they command now, in consequence of the stimulus given by the important prehistoric discoveries in Europe. The large volumes of Schoolcraft likewise contain a certain amount of information concerning Indian stone implements, ornaments, etc.; but the data are scattered through the text without much order,— *disjecta membra* at best,— while the conclusions arrived at by the author are unsatisfactory in many instances. But the work under notice presents, for the first time, a full account of the various types of Indian objects of use and ornament, together with exhaustive historical evidence bearing on the methods of their application. It may be stated in this connection, that the author stands unsurpassed in point of research, having availed himself of all existing literary sources in order to elucidate the topics he discusses; and he has been particularly careful to quote, in support of his statements, the oldest works on North America, which are supposed to present the Indians as seen by the first Europeans. A glance at the numerous references will convince the reader of the great amount of study that necessarily preceded the composition of the volume.

In Chapter XI. the author treats of arrow and spear-heads, describing their endless varieties and the modes of manufacture. They mostly consist of flint; but the common white quartz was also employed, and a few in the author's collection are made of beautiful transparent rock crystal. Such exquisite specimens, apparently too costly to be applied to practical use, probably served only for show. These articles are always chipped, never ground. In addition, the chapter contains interesting details relating to Indian archery. Chapter XII. enumerates grooved axes, hand and wedged-shape axes (called celts in Europe), perforated and ornamental or ceremonial axes, chisels, gauges, scrapers, flint-knives, awls or borers, leaf-shaped implements, smoothing-stones, and, lastly, flint implements resembling those of European drift. Of these articles the grooved axes, commonly called tomahawks, and the wedge-shaped implements, occur very frequently, and are mostly made of dioritic stone, while perforated axes are far less numerous. The latter represent neither weapons nor tools, but, doubtless, emblematic objects, which, attached to handles, were worn by the chiefs as badges of distinction. They are mostly of small size, but elegantly shaped and highly finished. The following chapters (XIII. and XIV.) are devoted to agriculture and fishing, and to the utensils employed in these pursuits, such as mortars and pestles, crushing-stones, net-sinkers, plummets, etc. Chapter XV. describes discoidal stones and the curious Chungkee-game (mentioned by Adair, Du Pratz, and others), in which these disks are used. In Chapter XVI. stone tubes, probably tools in the hands of the conjurers or medicine-men, are discussed. Chapter XVII. relates to stones for rounding arrow-shafts, to whetstones or sharpeners, pierced tablets, pendants, amulets, and other typical objects. In the following chapter (XVIII.) the author enlarges on the use of tobacco and the various kinds of Indian pipes, made either of stone or of clay. Some of the specimens figured are remarkable for their shapes and sizes. Chapter XIX. treats of the idol-worship and of idols. A remarkable stone image, found in the Etowah Valley, and perhaps belonging to the last-named class, is described and figured. The closing chapters (XX. to XXII.) give accounts of pottery, the use of pearls among the Southern tribes, and the utensils and ornaments made of shells. All these matters are well and thoroughly treated. The section on pottery derives special interest from the fact that the author's collection is particularly rich in excellent specimens of aboriginal ceramic art, which, it is well known, had arrived at a higher degree of perfection in the South than in other parts of the present United States. His remarks concerning the various applications of shells (utensils, money, ornaments) are equally interesting, and present the subject with a completeness never attained before.

The illustrations, representing nearly three hundred objects of Indian workmanship, and including several types hitherto not described, have been produced by the photolithographic process, and are faithful copies of the originals, with which the writer of this notice is well acquainted. With only a few exceptions the figured specimens are in the excellent collection of the author, who has made it a point not to present a single drawing that has appeared in any previous publication. Everything, therefore, is entirely *new*, — a feature that will be duly appreciated by all readers conversant with modern archæological writings, who are accustomed to see certain objects constantly reproduced in different books.

Enough has been said to illustrate the general character of the work, which really supplies a long-felt want, and certainly is destined to occupy a prominent rank among the archæological literature of our days.

Already the book has been most favorably noticed by the best authorities of Europe. Professor Carl Vogt, for instance, who certainly never indulges in praise where praise is not due, calls the volume in question "a work splendid in appearance and rich in contents, that must be classed with the best of its kind produced in our time."

3.— *Essays, Philological and Critical, selected from the Papers of* JAMES HADLEY, LL. D. New York: Holt and Williams. 1873.

THE volume of Professor Hadley's Essays seems fully to justify the strong expressions of praise and regard in the Preface of his friend, Professor Whitney. These specimens show an exact and wide learning, a nice sense of truth, and an enthusiastic and genial spirit. Evidently, Professor Hadley was no mere pedantic classicist, devoted to writing poor poetry in dead languages, or even satisfied with a narrow range of microscopic verbal criticisms. He was a student of language with wide views, in accord with the most advanced modern notions of philological study, and had paid attention to Sanskrit and the comparative grammar of the Indo-European languages. The publication of his views on these subjects is very timely, when the leading journal of the country, the supposed exponent of high scholarship, often contains a covert sneer at comparative philology. Professor Hadley is a worthy example, to the classical students of this country, of the judicious combination of exact classical knowledge with a wide range of linguistic investigation. He was not, perhaps, an original authority in these matters, like his friend Professor Whitney, but he was always an intelligent critic of the labors of the most advanced pioneers. For, from the cast of his mind, he seems to have been rather a critic than an original investigator, and these pages show less original genius than perhaps might be expected in so inspiring a branch of study as philology. Still, we have not so much originality in this field, in this country, that we can afford to despise the remarkable excellence of Professor Hadley.

A little less than a third of the book treats of purely Greek subjects, though even here are traces of wider studies.

The first article, on the "Ionian Migrations," deals with Dr. E. Curtius's theory of the early settlement of Ionians on the eastern shore of the Ægean, before the migration from Greece proper. From the nature of the subject the criticism is not decisive, but it throws the weight of the author's opinions against the theory, and is as good a statement of the arguments as can be found.

The second reviews Bekker's digammated Homer.

The fifth is more valuable, and contains a summary, with occasional criticism, of the doctrines of Greek rhythm and metre, as derived by Westphal and Rossbach from the more careful study of Greek musicians. This learning, which is exceedingly unintelligible in the German, Professor Hadley has put in a very plain and readable form, — a task for which he seems to have been very well qualified by having a nice ear and some knowledge of music, two things absolutely necessary for any real understanding of Greek metres.

The fifth will be to most persons, we think, the best of the whole, and has a real and permanent value. It is a very thorough and able treatise on the whole nature and theory of the ancient accent.

The leading idea is that the effects in Greek and Latin, which we call accent, were *melodic*, consisting in pitch, not *dynamic*, consisting in stress. This idea is ably set forth and supported by convincing argument. To this is added a less certain theory that the Greek had an inherited, intermediate tone, between the acute and unaccented syllable. Upon this theory the position of the Greek and Latin accent is ably explained. It is probable that these doctrines are true of Greek, but they can hardly be true of Latin,—in the historical period, at least. Certainly no mere melodic accent could have played such havoc with words, and especially with final syllables, as was made in Latin before the language becomes known to us. Probably the Latin began early to substitute stress for its old inherited pitch accent, but this tendency was somewhat checked by the cultivation of Greek forms of metre.

The seventh is an interesting essay on Greek pronunciation in the tenth century, which throws light on the earlier pronunciation also.

The next division of the book consists of articles on more general topics of philology, and occupies a little more than a third of the whole. Of these, number eight is of a kind that is now somewhat rare, because, fortunately, the necessity has passed away. When published, in 1858, it was, no doubt, very timely, and might still be read by many with profit.

It is a review of a reactionary book which attempted to stop the progress of linguistic science, and decry Sanskrit studies; a book somewhat like that of Professor Key, which was thoroughly reviewed by Professor Whitney in his last volume of Essays. The antidote is well administered, and we commend this article to all school committees, teachers, and book-makers who think comparative philology is outgrown in Germany, or indeed anywhere.

Number two, though treating of a Greek etymology, seems to belong in this part of the book. It attempts to connect *θεοπρόπος* with the root *prak*, which appears in Lat. *precor*, Sk. *prach*, and German *fragen*. It does not seem successful, though we have not ourselves anything better to offer. Number three, also, is on a Greek subject,—the origin of the ablative functions of the Greek genitive; but the treatment is in the style of comparative grammar. It is well done, and has the true scientific method. Numbers nine, ten, and eleven are also upon topics of comparative grammar, the Indo-European aspirates, the future tense, and passive voice, respectively. They are all excellent summaries of the views held by scholars on these subjects, accompanied by learned and sharp-sighted criticism. They are well worthy of preservation, though they are superseded in some details by later investigations. Number twelve, on the Latin subjunctive, though containing some valuable hints, seems to us the least worthy in the volume, especially in view of its date (1870). The author seems not entirely emancipated from the metaphysical method of grammar, and the result seems unsatisfactory on account of a wrong fundamental conception. Starting from the well-established formal origin of the Indo-European optative, from some form of the root I, the author supposes the form to have originally expressed a wish. This view, we think, is wrong. The meaning of *wish* is rare in any form of this root, and confined to Sanskrit, so there is no ground for believing the meaning original Indo-European. Nor, again, is there any reason to suppose this meaning in order to account for the meanings of the mood. Says Professor Hadley: "The Latin subjunctive is used to express an action as desired or wished for." Hence, a root to *wish* is the most natural factor of the mood. But, in fact, this is true only of a desiderative, where the wish is in all cases the wish of the subject. In the subjunctive (optative) the wish is not that of the subject, and cannot be so, except in the first person. It is impossible to trace the meaning of the expression *di meliora duint* from any form of wishing, on the part of the gods. It is possible, of course, that wishing might fade out into mere futurity, as in our own future with *will*, and through that develop modal meanings. But this requires an unnecessary step, for the idea of *going*, the original meaning of the root I, yields such a future at once. The potential subjunctive is made by Professor Hadley to grow out of the subjunctive of result,—an obvious error. The potential uses are among the most primitive of all, while those of result are later, and confined to Latin.

Number thirteen treats of the old question, the origin of the English possessive case, maintaining forcibly the prevalent view that the *s* is original, and not a corruption of *his*. Number fourteen is an excellent review of Ellis's Early English Pronunciation, already published in this Review, Vol. CX., 1870.

Number fifteen, on "English Vowel Quantity," is to us the best in the volume, though not of so general interest. The accented system of poetry has become so firmly established, in English especially, that we have almost ceased to think of quantity as belonging to vowels at all. We see this disregard of quantity in the many bad hexameters we have. Perhaps it would not be possible, with the remnants of quantity that we have, to make perfect rhythmical verses; yet when obviously long syllables are used as short, in a dactyl, the jar is perceptible, though most persons do not stop to think of the cause. Professor Hadley recognizes natural quantity as still existing in modern English, and compares it with that of the thirteenth century, which is indicated by the peculiar spelling of the Ormulum. The general result is, that with some regular exceptions, which follow fixed principles, the quantity has remained the same. The comparison is very carefully made, and the essay is quite German in its minuteness and thoroughness. He does not recognize quantity by position. But to our ear the word *strength* is a long syllable, on account of the combination of consonants, though the vowel is short. If the author's conclusions are correct, it is unfortunate that we have allowed our sense of rhythm to become so obtuse as to lose rhythmic poetry almost entirely, and even to give the language a harsh, unmusical flow.

The remaining third of the volume is of a more popular magazine style, and we cannot help wishing, from our own point of view, that they had been published in another volume. As a memorial for circulation among the friends of Professor Hadley, it is a more complete picture of his literary activity; but, on the other hand, few persons who buy the book for what there is in it will want to read this last third. It seems a pity, therefore, as the price of the book is rather large at any rate (four dollars), that the first two thirds cannot be purchased without the necessity of paying for memorial literature. Of course, no one knows this better than Professor Whitney, and undoubtedly he felt compelled by sufficiently strong reasons, under the peculiar circumstances of the case, to publish in this form, which probably on the whole is best. The mechanical execution of the book is remarkably good, and the whole is creditable alike to American scholarship and American skill.

4.—A *new variorum Edition of Shakespeare.* Edited by HORACE HOWARD FURNESS. Vol. II., Macbeth. Philadelphia: J. B. Lippincott & Co. 1873.

THIS work can hardly fail to mark a most important era in Shakespearian literature; that, too, not only for the American people, but for the whole English-speaking world, if, indeed, its importance is to be bounded by any circumscriptions of language. It is now fifty-two years since the last variorum edition of Shakespeare made its appearance. During that period Shakespeare has advanced more rapidly than ever before towards supremacy as a universal classic. Especially is this the case in Germany, where a great, wise, thoughtful people accept him as their "Emperor of Literature," setting him above all their national kings and princes of thought, and laying their vast treasures of learning and philosophy under contribution to interpret and illustrate his teachings. In fact, he may now be said to have made a full conquest of the whole German mind. Very great progress towards the same end has also been achieved in France. The tone with which Voltaire and other lawgivers in poetry used to speak of him has pretty much ceased to be heard. He is not, indeed, so reverentially studied there as in Germany, for reverential study in anything is not much the custom there; and, though the French mind does not yet appear to take to him cordially, it appears to be growing more and more into the persuasion that it ought to do so.

Within the same period of time, Shakespearian criticism has undergone an almost entire revolution. Both in its spirit and its method it is now quite another thing than it was fifty years ago. Shakespeare has on all hands come to be regarded as an authentic and ultimate lawgiver in his province. His critics, instead of affecting to teach him, or to sit in judgment upon him, are content to sit at his feet, and accept his deliverances as authoritative legislation in the realm of thought; they take him as their canon both of poetical and of human wisdom, and deem themselves happy if they can make their philosophy large enough and deep enough to comprehend and interpret the facts of his workmanship.

These great and wide-reaching changes in men's thought and discourse about Shakespeare afford ample reason why a new variorum edition of his works should be forthcoming. It may almost be said, indeed, that the just rights of Shakespearian literature imperatively call for such an undertaking. And it must be added, withal, that the same causes which authenticate the demand at the same time very much augment the labor and difficulty of the enterprise. High, very high indeed, must be a man's endowments in learning and judgment, to qualify him for doing the work as the present condition of the subject requires. To set forth a full and fair digest and compendium of what has been written about Shakespeare during the last fifty years is in truth a herculean task. Scholarship at once profound and varied and comprehensive; a discrimination naturally quick and keen, and largely exercised, besides, in the accumulated and diversified specialties of the matter; a judicial calmness and equanimity of temper; a firm grasp of general principles, together with a minute and exact attention to details; a vigilance that nothing can escape, a diligence that nothing can tire, a patience that nothing can exhaust; — these are among the qualifications fairly requisite for the due performance of such an undertaking. This supposes, indeed, a very rare combination of faculties: memory, reflection, judgment, taste, industry, exactness, all working together; and the process involving at every step great breadth and delicacy of perception, and the constant exercise of a mind prompt to seize the essential point, and skilled to sift it clear of encumbrances and obscurations.

So far as we are able to judge in the matter, the specimen before us warrants the assurance that the work has fallen into the right hands. Mr. Furness is evidently a workman of no ordinary stamp. He has a just and clear understanding of what such a work ought to be; he shows an ample mastery of his tools; and he walks as one well at home in all the parts of his wide field. His plan is as original as any plan ought to be in an enterprise of that nature; and it is exceedingly bold withal, though not bold in such a sense as to preclude the modesty of a well-poised judgment; in fact, it seems almost a marvel that any man should find the courage and resolution to grapple with an undertaking of such magnitude and requiring so great a stress of labor.

We must endeavor to make some tolerable statement of what his plan is, and what it includes. And here it will not be out of place to remark, that in his Preface to the second volume the Editor tells us he has somewhat modified the plan with which he set out. The modification, however, is in the way of enlargement, and does not touch the essential virtue of the thing. In the case of "Romeo and Juliet," which occupies the first volume, he took the variorum edition of 1821 as his point of departure, not intending to go back of that in the matter of the annotation. In that edition, the notes were selected and made up as the editors judged best from the whole range of preceding commentators; and the design of Mr. Furness was to accept their work as a sort of finality in reference to that part of the field. Of course, such a limitation would very much abridge the labors of his task. Nevertheless, he now repeals that limitation; and he is assuredly right in doing so. For, however well and wisely the editors of 1821 may have done their work, still there is no good reason, except for the saving of time and toil, why the ground which they included should not be traversed and explored again. Mr. Furness has satisfied himself, as indeed he well might, that much of valuable matter, which was overlooked or rejected by the editors of 1821, is still to be gleaned in the walks of commentary whence their gatherings were made. And it is abundantly certain that no available aids and resources towards ascertaining and elucidating Shakespeare's thought and language ought to be dispensed with or neglected in a work of such encyclopedian character. So that Mr. Furness's plan, as now enlarged, just takes in the whole field. Accordingly, for the material of the annotation in his second volume he draws upon the entire range of editors and commentators from Rowe down to the present time. Doubtless the work done in 1821 will very much facilitate his survey and assist his harvest; still he has in all conscience work enough on his hands.

Now for some particulars of his plan. First in order, he aims, of course, to set forth, as well as may be, the poet's genuine text. This is a labor requiring the nicest tact; and nothing but a long steeping in the poet's idiom of language can rightly prepare one for the attempt. On this point, his workmanship strikes us as eminently judicious. He is cautious and wary in a very high degree. We have to confess, indeed, that he is rather more conservative than we should be; but the error, if it be one, is certainly on the right side. It is better to be too slow than too fast in accepting the results of conjectural emendation. For instance, he retains the original reading in the following passage, Act I. Sc. 2: —

> "If I say sooth, I must report they were
> As cannons overcharg'd with double cracks;
> So they *doubly* redoubled strokes upon the foe."

Walker notes *doubly* as a probable interpolation. Whether the word came there by interpolation or by accidental repetition from *double* in the line before, we make no question that it ought to be omitted; both sense and metre cry out against it. Nevertheless, Mr. Furness is probably right in retaining the word in his text; for he marks the proposed reading in his notes, and furnishes all the matter that we need in order to judge for ourselves how the text ought to be.

Next in order comes the point of different readings. This is a matter requiring the utmost vigilance and exactness. To be sure, this part of the work is not a little furthered and lightened by what the editor finds done to his hand. Especially, as he remarks in his Preface, the Cambridge editors, by their accurate collation of the old copies, have been of great service to him. Yet he does not rest satisfied with this; he takes nothing at second-hand, and lets no item of their collation pass without verifying it for himself. And his indebtedness on this score is most handsomely acknowledged. "Although," says he, "the present collation is entirely original, and no reading is recorded at second-hand, yet it should be always borne in mind that I had the great advantage of a check-list, so to speak, in the foot-notes of the Cambridge Edition."

As "Macbeth" was first printed in the folio of 1623, the editor, of course, had no quarto copies to help or hinder him in the record of various readings. That first edition was reprinted in 1632, 1664, and 1685; and as all these reprints were conducted under editorial supervision, such as it was, they have many differences of text among themselves. It is in these that the work of collation needs to be prosecuted with the most care and minuteness of attention. Mr. Furness has, with almost incredible diligence sifted out and marked down all the varieties of reading in these copies that can be of the slightest moment to average students, and a great many besides that are quite superfluous except to the most inquisitive Shakespearians. Nor does he stop with verbal and literal differences, but carries his discriminating record into minute varieties of punctuation. All this, no doubt, is as it should be; though it may well be thought that with much less of labor on the editor's part he would still have left us without any cause to complain of his work. As it is, even the strongest weakness of fault-finding can get nothing here, apparently, to stick upon.

All this, however, is little more than the beginning of his work of collation. Besides the four folios which may be termed old copies, his collation embraces upwards of forty modern editions, scattered all the way from Rowe's, in 1709, to the latest issue in 1871. Here we have even in the brief compass of one play a long list of various readings from the inexhaustible spring of conjectural emendation. Many of these, indeed, are so wide of the mark, or so absurd in themselves, that no one would deem it worth the while to reproduce them; but all or nearly all of them fairly worth considering are duly registered by the learned and indefatigable editor. Even this, however, is far from adequately describing the extent of his labor in the record of textual varieties. Besides the work of Shakespeare's many editors, a vast deal has been written towards correcting his text by other hands. This matter is spread over a wide surface, in the shape of notes and essays published in all sorts of periodicals, quarterly, monthly, weekly, and daily. Many volumes, also, have been published, entirely or mainly devoted to the same purpose; these ranging over a long period of time, from Heath's "Revisal of Shakespeare's Text" to the sagacious and exquisite labors of Walker and Lettsom in our day. There is, indeed, almost no end to the proposed changes in the poet's text,— changes varying in worth from nothing, or perhaps less than nothing, to what may be called first-class corrections. A careful and searching review of all this matter, and a sifting-out of every grain of thought that may be deemed worth preserving, is also included in the editor's scope in regard to various readings.

We have said that Mr. Furness registers all or nearly all the variations of text that are fairly worth considering. It occurs to us to note one seeming exception to this statement. We refer to the well-known passage in Act I. Sc. 7: —

> "Was the hope drunk
> Wherein you dress'd yourself? hath it slept since?
> And wakes it now, to look so green and pale
> At what it did so freely?"

In a note on this, the editor justly quotes the following from Bailey: "Surely it is on the confines at least of absurdity to speak of dressing yourself with what may become intoxicated. The substitution of two letters restores, I apprehend, the genuine text. Read *bless'd* for *dress'd*, and all is plain and apposite and Shakespearian." Now it seems to us at least worth considering whether *dress'd* is not used here in the old sense of *addressed*, that is, *made ready* or *prepared*. "Was it a drunken man's hope *in the strength* of which you *made yourself ready* for the killing of Duncan?" This not only relieves the metaphor of the incongruity, as Abbott puts it, of "making hope a person and a dress in the same breath," but also sets the passage in full accordance with what the same speaker says a little after: —

> "When you durst do it, then you were a man.
> . . . . Nor time nor place
> Did then adhere, and yet you would make both:
> They have made themselves, and that their fitness now
> Does unmake you."

And here no change is required but the putting of an apostrophe before *dress'd* thus: "Wherein you 'dress'd yourself." So in "King Henry V." Act IV. Sc. 1: —

> "Besides, they are our outward consciences,
> And preachers to us all; admonishing
> That we should *'dress* us fairly for our end."

But it is, we suspect, in the article of annotation that the editor's labors will prove the most generally useful and acceptable. A part of what we had to say on this point has been anticipated in speaking of his enlargement of plan. Here we are really something at a loss whether his comprehensiveness of design or his judgment in the execution be the more to be approved. Probably it was in this part of the work that he found his patience and his discrimination the most severely taxed. Every one at all conversant with the subject knows that the entire literature of Shakespeare's age has been ransacked through and through for the purpose of ascertaining and expounding his meaning. At no time has this work been plied so busily or on so large a scale as during the last fifty years. Vast indeed is the accumulation of textual and exegetical commentary thence resulting. And it all has to be explored, scanned, and weighed line by line, in order to make up a complete course of variorum annotation. To discriminate and select and condense and arrange what is most valuable out of such a huge mass of "matter and impertinency mixed" is what Mr. Furness has undertaken in his notes; and, to the best of our judgment, he has in a very signal measure made good his purpose. We do not well see how anything more or better can be desired in the way of showing what has been done. Nor does the editor here limit himself to the circle of English commentary. Of late years the German Shakespearians have taken a good deal to the work of explanatory comment; and Mr. Furness is well at home in what they have written in that kind, and draws largely from it in his selection of notes.

In such a varied and elaborate course of annotation there will needs be many and great diversities of judgment and choice. Probably no two minds, equal in competency, would often hit together in their selections of matter. The process of selection is indeed a very delicate one, and requires the powers of discrimination to be kept on a stretch of exertion at once keen and cool. Mr. Furness displays admirable candor and fairness in conducting the process. In reference to a given passage, he often cites a number of very different and even contradictory explanations; yet so austere and so sustained is his self-restraint, that he seldom, if ever, betrays the least sign of his own preference. The firm, cold, uncompromising impartiality with which he lays together mutually oppugnant comments has at times the effect of piercing irony. And this we reckon to be among the highest merits of which such workmanship is naturally capable.

Thus much must suffice touching the main body of the volume. About two fifths of the volume are occupied with an Appendix, in which the editor discovers the same breadth and largeness of design.

Here we have, first, a literal reprint of Davenant's version of the play, printed in 1674, as it was then acted at the Duke's Theatre. This is an exceedingly valuable addition to the contents of the volume. Davenant was himself a poet of high reputation in his time; his early years were passed more or less in the companionship of Shakespeare's friends, if not of Shakespeare himself; and he probably carried more of Shakespeare's mental atmosphere in his person than any other man then living. In recasting the play to suit the taste of the times, he took very large liberties with the matter, in the way both of omission and of addition; and it is both curious and instructive to compare his part of the text with that of the original play. The students of Shakespeare are under great obligations to the editor for making this rare piece so accessible to them.

This is followed by a full presentation of matter relating to the source of the plot, including, especially, so much of Holinshed and of Wyntoun's "Cronykil" as can throw any light on the historical incidents of the play. Besides these large extracts, we have various other items gathered and condensed from Chalmers's "Caledonia," from Farmer, Simrock, and others.

Next comes an exhaustive statement and reproduction of all that is known as to the date of the composition. Capell, Malone, Chalmers, Collier, Hunter, White, Halliwell, and the Clarendon editors have discussed the subject learnedly and variously; and the marrow of their discussions is drawn together.

The editor then proceeds to "The Witch" of Thomas Middleton, and works out a careful digest of all that has been written touching the relation between that play and Shakespeare's tragedy. In this part of his work the editor justly reprints in full the several witch scenes of Middleton's play. Students of Shakespeare will amply find their account in collating the witch matter of the two authors.

The costume of the play, and the question whether Shakespeare was even in Scotland, also take their turn in the editor's attention. These, to be sure, are subordinate topics, and are accordingly despatched with comparative brevity; yet their claims were by no means to be slighted in a work of so comprehensive a nature.

The remainder of the Appendix is mostly occupied with what to many will perhaps be the most acceptable part of the whole volume. The editor here traverses the entire field of Shakespearian criticism, both English and foreign, in reference to the characterization of the play. The matter is drawn from a very wide range of authors, and is presented with the same fairness and candor as mark the selection of the notes. Of course, it were quite out of the question to reprint in such a work all that has been written on the characters in "Macbeth"; a liberal, varied, and even-handed selection is the utmost that can be expected, or ought to be desired. And the selection were probably best guided by the two principles of intrinsic value and of rarity. So the editor himself appears to have judged: we have not, indeed, found him saying this in so many words, nor was there any need of doing so; but the nature and scope of his selections seem fairly to warrant the conclusion. Among the English critics from whom he largely quotes, we have the names of Thomas Whately, John P. Kemble, Hazlitt, Steevens, Coleridge, Mrs. Siddons, Mrs. Jameson, Campbell's "Life of Mrs. Siddons," Maginn, Dr. Bucknill, Fletcher, Hunter, De Quincey, and Rolfe; among the Germans, of Schlegel, Börne, Ulrici, Rötscher, Tiecke, Gervinus, Kreyssig, Flathe, Rümelin, Petri, Friesen, and Leo; among the French, of Chasles, Lacroix, Mezières, and Lamartine. Perhaps we ought to add that the pieces from the German and French are all translated into clear and handsome English.

Of course, there is in these criticisms a good deal from which we should dissent *in toto*, as the editor himself probably does, but the matter is none the less welcome on that account. To our thinking, the quotation from Campbell is itself worth the cost of the volume.

There are several other points that we should like to remark upon, but our notice has already exceeded the limits we had prescribed to ourselves. The only fault we have to find with the work is its being prosecuted on so grand a scale that the editor will need as many as two or three ordinary lives in order to get through the whole series of Shakespeare. But he no doubt judges, as indeed he should, that a part done just as well as he can do them is better than the whole done in manner less than his best. The spirit in which he pursues his task, his clear, manly, bracing austerity of judgment, and his self-withdrawing disinterestedness of bearing, are indeed above all praise. We wish him God speed in his noble work; yes, heartily.

5.—*Rousseau.* By JOHN MORLEY. London: Chapman and Hall. New York: Scribner, Armstrong, & Co. 1873. 2 vols. 8vo. pp. xii, 344; x, 342.

A MORE unpleasant subject for his pen than Rousseau, it would have been hard for Mr. Morley to find, nor yet one which it is of more importance for an age which is reaping so much of the fruit of his writings to know. Rousseau tore off the veil from his private life with an immodesty which is fortunately rare; he showed himself in all his repulsive nakedness, a liar, a cheat, a hypocrite, a living satyr, in fact a madman, whom one would wish forgotten as soon as possible; yet his words were as eloquent as those of any man of his time, and his influence has not yet ceased working, sometimes for good, and often, in unhealthy minds, for evil. Of his life but a few words need be said; Mr. Morley has told it as unoffensively as possible, dwelling less on its darker scenes than on the few redeeming points of innocence. It is with admirable delicacy that he treats of the rottenness of French society a century ago; and in the way of warning against whatever may seem like a tempting example, he preaches incidentally many a useful sermon.

Mr. Morley's method is to bring up the account of Rousseau's life to the time of publication of his writings, and then to make an interlude, containing an analysis of the work. In this way we have very interesting and important chapters about the great Frenchman, but we miss any final judgment of Rousseau on the whole, and of the connection between his various works. A final judgment it would be hard to form; he was a man of such sensitiveness without, and such hardness within, his words so differed from his deeds, that we may be willing to forgive the omission of what at the best would be very uncertain, but one cannot notice it without regret.

Mr. Morley's own philosophic and religious views are clearly marked in his book, and one of his freaks, which is one of a sort that generally indicates the noisy mind of a fanatic, namely, his writing "god" instead of "God," has everywhere met with the reproof it deserves. His whole tone about Christianity shows everywhere the attempt to be sincere without affectation, but it presents somewhat the appearance of singularity which would be more remarkable in a man who so far refused to sully his lips by inaccuracies of speech that in the face of all custom he would avoid saying that the sun rose and set. His readers will be more struck by Mr. Morley's singularity, by his distance from Christianity, than by any defects in what is so important and a part of the civilization of all of us, not even excepting Mr. Morley.

Perhaps the most important chapters in the book are those which contain the analyses of Rousseau's writings. Possibly they fail to give the English reader an adequate idea of the charm of the writer's style, nor do they make perfectly clear to us, though that is not Mr. Morley's fault, the reason for the intense enthusiasm which they aroused in Germany as well as in France. Goethe, as well as the most frivolous of French women, was affected by it. The whole of both nations felt the charm in a way that it is hard now to understand. But we cannot help being grateful for a book which throws so much light on a man of the influence of Rousseau, and of whom, it must be said, so little was generally known. In interest we consider this book inferior to his life of Voltaire, but this is in a great measure due to the difference between the two men. Voltaire was human, we can all sympathize even with his weaknesses; but with Rousseau one can never feel at home. Voltaire can be defined, but Rousseau evades every attempt at complete definition. They are both thoughtful books, and well deserve reading.

6. — *Reisen in Indien und Hochasien. Von H. von Schlagintweit-Sakünlünski.* III^{ter} Band. *Tibet; zwischen der Himálaya- und der Karakorum-Kette.* Jena: Hermann Costenoble. 1872.

Any one who has occasion to compare the more recent maps of High Asia with those of even ten years ago must be struck at the first glance with the extent and importance of the increase of our knowledge of the topography of that region. Only a few years ago, the maps of ancient and modern Chinese geographers, essentially improved by the astronomical observations of the Catholic missionaries commissioned by the Chinese government early in the last century, formed the cartographical basis for all the vast interior of Asia. During the first half of the present century, this frame-work was partially filled in with a large number of topographical details, obtained to a great extent by collecting and comparing the itineraries of native caravan routes. The discussion of these and of the occasional travels of Europeans by Klaproth, Humboldt, Ritter, Biot, and others, forms not only a literature by itself, but is a monument of inductive research in physical geography. But systematic exploration is now yearly lessening the area of the *terra incognita.*

The volume of which we have given the title is the general narrative of the explorations of the brothers Hermann, Adolph, and Robert von Schlagintweit in Tibet, between the Himalaya and the Karakorum range. The greater portion — nearly all — of the volume relates to travels and observations in the westernmost third of Tibet; the central and eastern portions, which constitute the political Tibet of to-day, remained almost wholly closed, to these daring explorers.

The most important part of the one chapter treating of Eastern Tibet is that devoted to the question of the tributaries of the Brahmapútra. By most geographers, European and Chinese, the Dihong, the long stream which rises near Lake Mausaraur (Mauasarowa), and flowing eastward along the northern foot of the Himalaya, suddenly turns to the south, and enters the valley of Assam at Sudya, has been considered to be the only great source of that river. But Herr von Schlagintweit-Sakünlünski looks upon this as simply the chief of three tributaries; the other two being the Wei-tsu or Nu-kiang and the Lan-tsan-kiang, which have hitherto been regarded, respectively, as the upper courses of the two largest rivers of Farther India, namely, the Salween and the Meikon. The data on which this attempt to solve a hydrographical paradox of long standing is based do not seem to be sufficient, although they are strong as far as they go. These are found in the facts that the Brahmapútra has a greater volume of water above the mouth of the Dihong than it receives from that stream, and that its valley retains its northeast course both above and below the entrance of the Dihong Valley. It would seem that next to actual exploration of the one (or three) river system in question, the most light might be obtained by a comparison of the times of high-water of the Brahmapútra above Sudya with those of the Irawaddy, Salween, Meikon, and Upper Yangtse-kiang. The Wei-tsu and Lan-tsan-kiang are supposed to have their sources in the same great region of snows and glaciers, to the melting of which the great summer flood of the Yangtse-kiang is due. If the Wei-tsu and Lan-tsan-kiang are the sources of the Salween and Meikon, then these latter streams should have floods corresponding in time to that of the Yangtse, certain allowances being made for difference of length and fall. If they are sources of the Brahmapútra, then the same correspondence with the Yangtse flood should exist above Sudya; and the Salween and Meikon floods should be due to the much earlier melting of snow on the much lower and more southern mountains of Northwestern Yunnan. It is not improbable that the Wei-tsu may be found to be a tributary of the Brahmapûtra, while the Lan-tsan-kiang may be the upper course of either the Salween or Meikon.

The volume is chiefly devoted to a general narrative of the work of the brothers in the Italian province of Guári Khórsum; the English province of Spiti; the region of the salt lakes; and in Balti and Ladak. Guári Khórsum (Nari) is both the central elevation of Tibet geographically, and the westernmost province politically. It is in this province that the Indus, the Sutlej, and the Dihong branch of the Brahmapútra have their sources less than a score of miles apart.

In entering this province the brothers Adolph and Robert had their first view of Tibetan scenery. They had reached the top of the Kiúngar pass (17,331 feet elevation) on the 12th of July, 1855, and stood upon the sharply defined boundary between two extremes of climate. "The gloomy mantle of the rainy season was spread over the whole southern declivity of the Himalaya; while on the Tibetan side the last isolated cloud-masses vanished just north of the crest line, and the green mountain meadows, near the distant station Laptél, lay clearly defined in the full light of a sub-tropical sun."

Although the narrative is intended partly for the non-scientific reader, we miss in it almost every approach to sentiment, almost every trace of the poetry that must be aroused in the traveller in this unique world where Nature has her grandest throne, and where events pregnant with the destinies of races stand out boldly in the radiating vistas of historic and prehistoric times. Here, if anywhere, we might expect a letting loose of the "nerve-currents."

But if the author does not give us pictures imbued with the color and life of subjectivity, it would seem to be because he has purposely eliminated this element as foreign and dangerous in purely scientific research. His pictures have a stereoscopic faithfulness; the lengths and breadths, distances, heights, and depths, are based on astronomic, trigonometric, and barometric observations, and on panoramic profiles; and the data for "atmosphere" abound in the results of long and careful meteorological research. But we may, nevertheless, thankfully recognize the true artist in the following philosophical definition of "atmosphere" and its effects on different landscapes: —

> "So pleasant had been the impression produced by five days of cloudless heavens, that the few isolated cloud-masses which stood in bold relief on the blue sky made a depressing impression not less on me than on my native Tibetan companions. It might be supposed that one would, after a time, miss the ever-changing forms of the clouds; but experience has taught me that the pleasant effect of the brilliant lustre which the clear sky, notwithstanding its deep azure color, radiates upon these high mountains, is never equalled when the heavens are in any way covered.
>
> "On the landscape, on the other hand, the influence of cloudiness and also that of dimness — whether this be due to minute dust-particles or to mist — is somewhat different; it is dependent upon the size of the object offered to view. With very great transparency of the air, whether brought about by rarefaction at a standpoint of high elevation, or by that degree of atmospheric moisture at which, without regard to the quantity of vapor present, condensation to mist has not yet taken place, only great forms show themselves quite satisfactorily; only those where the distances between the separate parts are so great that even by exceptional transparency of the air the contrasts of sharpness of outline and of light and shade are clearly visible. Here, and throughout High Asia, these conditions are satisfied by the colossal character of the surface configuration. . . . . But in smaller mountains, or where the visual distance is small, the effect of the landscape is much increased by a diminished transparency of the air.
>
> "What I had seen in my native Franconian hills I found repeated under the tropical illumination in Bahar, in Central India, and in Ceylon. Dimness of the atmosphere, when not too pronounced, produces distance in such landscapes, and only then do the various features become sufficiently individualized; in this manner, even the scenery in mountains of medium size often approaches in character that of grander mountain regions."

The routes of the brothers form a network on the map of Western Tibet. The greater part of this volume is devoted to discussions of the topography, surface geology, and climates along these routes, — a register of facts observed. The second volume contained a more generalized description of all High Asia, based very largely on the result of the Schlagintweit expeditions. The results of these journeys form one of the most valuable contributions to geographical knowledge made during this century.

The author's generalizations with regard to the surface configuration of the country are best seen in his map, compiled on a scale of 1 : 4,050,000, from the observations of the brothers Schlagintweit, and from those of the members of the Great Trigonometrical Survey.

In comparing this map with former representations of the same region, we are struck first by the extent to which the details of topography and political geography have been filled in, and next by the great persistence of the Karakorum range, which has only so recently been found to exceed all the mountains of the world in mean height, to be indeed "the culminating ridge of the earth." We observe a well-defined parallelism not only between the Himalaya, Karakorum, and Kwenlun ranges, but also among the ridges and valleys that lie between the two former. In at least several of the valleys thus formed there are immense deposits of tertiary fresh-water lakes, which in places, as in the basin of the Upper Sutlej, are more than 1,500 feet thick, and mark the extent of former large water areas. These have long been drained by an erosion which has deepened the outlets and cut backwards drainage channels often 1,200 to 1,500 feet deep in the tertiary strata of the lake bottoms.

The present lakes of Western Tibet are the remnants of these formerly grand inland seas, which at elevations of 5,000 to 15,000 feet washed the bases of mountains towering 5,000 to 10,000 feet above their mirrors. Herr von Schlagintweit devotes a chapter to a very interesting description of these lakes, and a discussion of their origin. Among them are the salt lakes, which, according to the author, owe their saline character wholly to absence of outlet, and to the consequent concentration by evaporation. An interesting fact is the occurrence of what seemed to be a kind of salmon in the double lake Tsomognalari. The upper lake is fresh, and empties during the time of high-water into the lower lake, which has no outlet, and is salt, and the fish seems to make its migrations between the two.

The disappearance of so considerable an area of water surface must have produced marked changes in the climate, and yet the author expressly states that there are no indications of a former general extension of the glaciers beyond their present limits. On the contrary, one of the unexpected results of their investigations was the discovery that the lowest glaciers of High Asia (allowing for the climatic zone in which they lie) reach to a relatively lower level than those of the Alps.

In only one instance did he find the traces of an extinct glacier, though he observed areas of diminished *nevés;* but both of these occurrences he considers as comparatively local consequences of the decrease of moisture due to the gradual drying up of neighboring lakes.

Perhaps future explorations on the more northern Kwenlun and Tlinshan may show the remains of a formerly far more extensive glacial action contemporaneous with the former submergence of the Siberian and Russian steppes.

There is a chapter discussing the Tibetan climate, which, owing to the elevated position of so great an area, and to its highly rarefied and dry air, is one of diurnal and annual extremes, but in which these extremes have a considerable regularity as regards times of recurrence. The dryness of the atmosphere has here for its necessary consequence a scarcity of soil; and in valleys of over twelve thousand feet elevation, as in Upper Spiti, large areas even of the valley plains are without even the color of vegetable soil. Isolated agriculture was found only near springs or along rivulets whose channels were not cut deep, or where irrigation was possible. But the volume gives, practically, no new information concerning the agricultural products of Western Tibet.

The articles of export are sheep's wool, the hair of the Tibetan goat for shawl manufacture, live sheep and goats, borax and coarse salt, and recently gold from the mines of Thok-jalung.

The principal imports are tea and grain, chiefly in form of flour; rice comes in large quantities from India. Tea comes still almost wholly from China. The low price of the Chinese "brick-tea" gives it an advantage over the tea of the Himalaya plantations, and, besides this reason, the Himalaya varieties are considered inferior in aroma to the Chinese. The commerce is conducted largely at fairs, and consists in an exchange of products in which one volume of salt is considered equal to one and one half volumes of flour; it was found that this was equal to one hundred pounds of flour or sixty pounds of rice for one hundred pounds of salt.

Although opium forms an important part of the merchandise which passes through Ladak on its way to China, it is not used at all by the natives.

> "The goat of Tibet and of the countries lying to the north, and also of those immediately south, furnishes the best shawl material. This is the short wool — *pashm* — which lies under the long goat-hair."

Some interesting remarks concerning shawl-wool and shawl manufacture are quoted by the author from Dr. Watson's "Textile Manufactures, 1867," and may be reproduced in this notice.

> "The dearest shawl-wool comes to Cashmere, not from Tibet, but from Turfán Kichar via Yárkland. It costs in Cashmere three to four shillings per pound for the uncleaned, and six to seven shillings for the cleaned. . . . . In the manufacture of a shawl of the best material, weighing seven pounds, and selling in Cashmere for £300, the items of cost are, £30 for material; £100 for labor; £50 for expenditure on mechanical arrangements, etc.; £70 for tax in Cashmere."

There is an attractive chapter on the interesting province of Ladak, which lies at an elevation of between 11,000 and 12,000 feet.

In regard to longevity, the inhabitants enjoy a moderately good average. But the population is small even when compared with the capacity of the land for supporting life, — a fact for which Herr von Schlagintweit finds an explanation in the prevalence of the Tibetan custom of polyandry. Although this remark is the only reference to this custom in this volume, it is a recognition of its existence, by a cautious observer. In this variety of marriage the eldest son of a household selects one woman to be the only wife of all the brothers, and the children are apportioned to the husbands successively in the order of the ages of the latter. The wife is said to be the head of the household, and to manage the affairs of all her husbands, however diverse the occupations of these may be.

Among the diseases common in Tibet is cretinism, which occurs even in the highest inhabited localities. Diseases of the eye are also frequent, and are caused to a great extent by the dust-storms of summer, and by the smoke that fills the houses in winter. But severe costiveness is the national trouble of the Tibetans, and is due, the author thinks, partly to the indigestible character of their food, and largely to permanent residence in a region of low barometric pressure and extreme dryness, and where, consequently, the body suffers a great loss of moisture by evaporation.

Besides the map, this volume contains seven finely executed full-page views of characteristic scenery, and a series of admirable panoramic profiles, in which three degrees of distance are defined by shading.

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